COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

HOUSE OF REPRESENTATIVES

SELECT COMMITTEE ON THE RECENT AUSTRALIAN BUSHFIRES

Reference: The recent Australian bushfires

MONDAY, 14 JULY 2003

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SELECT COMMITTEE ON THE RECENT AUSTRALIAN BUSHFIRES

Monday, 14 July 2003

Members: Mr Nairn *(Chair)*, Mr Adams *(Deputy Chair)*, Mr Bartlett, Mr Causley, Ms Ellis, Mrs Gash, Mr Gibbons, Mr Hawker, Mr McArthur, Mr Mossfield, Mr Gavan O'Connor, Mr Organ, Ms Panopoulos and Mr Schultz.

Members in attendance: Mr Bartlett, Ms Ellis, Mrs Gash, Mr Gibbons, Mr Mossfield, Mr Nairn and Ms Panopoulos.

Terms of reference for the inquiry:

The Select Committee on the recent Australian Bushfires seeks to identify measures that can be implemented by governments, industry and the community to minimise the incidence of, and impact of bushfires on, life, property and the environment with specific regard to the following.

(a) the extent and impact of the bushfires on the environment, private and public assets and local communities;

(b) the causes of and risk factors contributing to the impact and severity of the bushfires, including land management practices and policies in national parks, state forests, other Crown land and private property;

(c) the adequacy and economic and environmental impact of hazard reduction and other strategies for bushfire prevention, suppression and control;

(d) appropriate land management policies and practices to mitigate the damage caused by bushfires to the environment, property, community facilities and infrastructure and the potential environmental impact of such policies and practices;

(e) any alternative or developmental bushfire mitigation and prevention approaches, and the appropriate direction of research into bushfire mitigation;

(f) the appropriateness of existing planning and building codes, particularly with respect to urban design and land use planning, in protecting life and property from bushfires;

(g) the adequacy of current response arrangements for firefighting;

(h) the adequacy of deployment of firefighting resources, including an examination of the efficiency and effectiveness of resource sharing between agencies and jurisdictions;

(i) liability, insurance coverage and related matters;

(j) the roles and contributions of volunteers, including current management practices and future trends, taking into account changing social and economic factors.

WITNESSES

Committee met at 9.48 a.m.

CHAIR—Ladies and gentlemen, I declare open this public hearing of the House of Representatives Select Committee on the Recent Australian Bushfires. Today's hearing is the fifth of the inquiry and it follows hearings last week in Nowra, Katoomba, Richmond and Cooma. This is the first day of hearings in Canberra and it follows the committee's inspections in the Tharwa and Uriarra areas and in Canberra and Duffy on Friday. I would like to place on record the committee's thanks to all those who made themselves available to meet with the committee on Friday and who assisted with our tour.

I would also like to advise those in the gallery that, before the conclusion of today's hearing and after we have heard from the listed witnesses, there will be an opportunity for others to come forward and make statements that will go into the record of evidence. Anyone wishing to do so should approach the committee secretariat during the day. A number of other committee members are coming. A couple have been delayed by the fog and, unfortunately, another couple will not be here until about 10.30 a.m., but at least one other committee member should be here very shortly. I will start by calling the first witness, Mr Peter Webb.

[9.50 a.m.]

WEBB, Mr Peter William (Private capacity)

CHAIR—Welcome. Do you wish to make a preliminary comment?

Mr Webb—I am a private citizen at the moment, but these fires occurred when I was the state member for Monaro in New South Wales.

CHAIR—Although the committee does not require you to give evidence under oath, I should advise you that these hearings are formal proceedings of the parliament and, consequently, warrant the same respect as proceedings of the House itself. It is customary to remind witnesses that the giving of false or misleading evidence is a serious matter and may be regarded as contempt of parliament. We have your submission and we thank you for it; it is very comprehensive. Would you like to make some opening remarks before I give the committee members an opportunity to ask questions?

Mr Webb—I congratulate the committee for holding this inquiry—a very important inquiry—and for giving me and others the opportunity to give evidence before it. I note that four pages at the end of my submission do not appear on the Internet site, and I think they are a relevant part of the submission. Also, the copy of my submission that I have appears to be slightly different from the one on the Internet. I might be able to check that later on.

I will begin by saying that I believe my personal history, which is detailed in the submission, gives me the necessary credentials not only to fight fire but to put a submission in to this inquiry. I have had many years of involvement in the local area and, in fact, with bushfires. Also relevant I think is the history of fires in the south-east of Australia. We are a fire prone area. There is no way that these January 2003 fires were a one-in-100-year event, as stated by the New South Wales National Parks and Wildlife Service and the New South Wales government. Perhaps their very magnitude and the area covered may have been put down to that. But, if you look at the history of fires over the last 150 or 200 years of white settlement, fires occur very regularly and, if allowed to get out of control in high fuel loads, they certainly result in massive devastation. Local history here is that going back every 10, 15, 20, 30 years fires occur of a similar nature to those we witnessed this year.

I think it is disturbing that we are here giving evidence to an inquiry that is looking into the effects of the January 2003 fires. This inquiry bears out the fact that previous recommendations following major fires have not been implemented by various governments or government agencies. It seems that even the recommendations of the New South Wales bushfire inquiry last year, particularly those detailing the need for fuel level audits and fire trail maintenance audits, have basically been ignored. Certainly nothing had been done prior to the January 2003 fires. Now, this year, we are at the mid-point of winter, time is running out for hazard reduction and, to date, little has been done. The Byadbo fire in 1998 south of the Kosciuszko area is a case in point. It was a very hot fire and various recommendations came out of that. Whilst they may have been followed a little for a year or so, previous practices were soon reverted to.

Also important and detailed in my submission are the delays in fire control works during the fire, particularly in the few days following 8 January and particularly here in the McIntyre's Hut fire. McIntyre's Hut used to be in the Fairlight Bushfire Brigade area. I am a former captain of the Fairlight Bushfire Brigade and my brother is the current captain, and I believe that you visited that area a few days ago. The lightning strikes there, down through Kosciuszko and into Victoria on 8 January should have been controlled within two or three days. The capacity was there for us to get into those areas using RAFT—remote area firefighting teams—and other control methods and hit those fires within two or three days. We have done that in the past and we should have done that again then.

A lot of questioning is needed about those delays. They were a major factor that allowed those fires to grow quite rapidly over 10 days and then, in the case of the Canberra fires, to allow three fire fronts to combine and cause a massive loss of property and, in fact, life. A similar effect was had down south, although the fires were contained before a lot of property damage was done. But, because of the delays and the magnitude of the fires in the Kosciuszko area, there was a very high financial impact on business, including tourism, throughout that whole region. That probably would have been in the order of $50 million to $100 million; it is very difficult to quantify.

In my submission I also detail the fact that I believe the New South Wales government and the New South Wales National Parks and Wildlife Service ignored the urgency of the need to put in place plans and reduce fuel levels prior to this season of fires. The fires in this local area around Christmas 2002 and to the east of the Braidwood area in 2002 demonstrated that there was a massive problem with high-fuel levels. I knew for a fact that there were high-fuel levels in the Brindabella area. I wrote to the New South Wales ministers for the environment and emergency services detailing that and my message was ignored. It has come out that the fire management plans prepared for the New South Wales National Parks and Wildlife Service are either very poor or not even in place and operating. That is a major shortcoming.

I believe that the New South Wales shires' or local government areas' fire risk zones are inaccurate. You visited Fairlight the other day to the west of the urban area of the ACT and to the east of tens of thousands of hectares of natural bush. It is right on that interface and, in fact, it has been given a low-risk zone classification. That is partly because of the very effective bushfire control work done by the local people. Formerly ACT Forests in that area over the last 30 or 40 years have put out fires within a day or two, and there have not been a lot of fires. But the January 2003 fires have demonstrated that it is not low risk at all; it is very high risk, and we can see the result of that to the west of Canberra.

Trail networks are a fundamental part of being able to get into a site quickly, control the fire within a couple of days and to do that safely. Many trails have been closed. Within wilderness areas access has been denied. The National Parks and Wildlife Service have locked gates and closed trails in places. Many of the trails have not been maintained. A cover of very narrow trees overarches one trail and they do not act as a fire trail at all; they act perhaps as an access for motorcycles or small vehicles. There is certainly nowhere for vehicles to pass and/or turn around. This is very dangerous. In fact, before firefighting operations can take place in many cases big machinery must be brought in and those trails have to be made wider. That this sort of action had to be taken partly contributed to the delays. That is contrary to statements made by the New South Wales minister that there were no closed trails and they were all open and very

readily accessible during the fire. Many people contacted my office and said, 'Look, we can't get in here. We're not going in here; the trails aren't good enough. We're just not going to go in there.'

A case in point with trails is the TransGrid powerline to the west of the ACT. Work was done on that to protect that valuable power infrastructure asset for the people of south-east Australia. The New South Wales government, I think through the EPA or one of its government agencies, sued TransGrid because they overstepped the mark on how far they had cleared it and their clearing operations. At the end of the day, that cleared area served as a very good fire break. It was a fire break that operations were begun off and it was used to help control the fire in the early days. On the size of that, all of the timber that was put back actually burnt away. I think that is something that needs to be looked into with TransGrid. If in fact that clearing work had not been done, that powerline itself could have well caused a fire.

It appears to me that the National Parks and Wildlife Service are in fact poorly resourced for fire control, yet they manage and have jurisdiction over a very, very large area of land. Put simply, they rely on the Rural Fire Service in New South Wales to help them control fires and they are calling on them to help them do hazard reduction work. That would work all right if the Rural Fire Service personnel were in fact given the authority and were tasked and if the fire control operation were set up with the Rural Fire Service in control.

We found in some cases that the Rural Fire Service was in control. Locally here, the Rural Fire Service FCO was the incident controller with the National Parks as deputy. That did not occur for a few days, mind you, and that was part of the delay. In Kosciuszko, the National Parks and Wildlife Service was in fact the incident controller and the RFS was the deputy. I think in that particular case the Rural Fire Service deputy incident controller, Barry Aitchison, had far superior knowledge in the local area and fire control and he really should have been in control the whole time.

One point I made in my submission was that warnings and process were ignored and the fact that I was excluded from an incident control meeting and briefings here in Queanbeyan. I give some weight in my submission to the politicisation of the issue. I think it was just a complete nonsense to ignore the input of somebody who has an understanding of the whole area and it did nothing at all to help matters. There was a breakdown in the communications between the emergency control centres and the fire control centres. I think this is something that needs to be addressed in the future.

It is evident that real warnings of risk, fuel levels and poor access have been ignored and perhaps continue to be ignored. In the last few years, permission for many prescribed burns has been denied or the area has been reduced—and sometimes reduced to a state that you could not carry out that hazard reduction burn. I understand that this is still happening now in the area to the west of Sydney, where proposals have gone in to burn, say, 1,000 hectares and the National Parks and Wildlife Service have looked at it and said, 'No, you can only do half or a third of that.'

I think one of the big things that has been overlooked to this time—and it is very difficult to get on top of, but resources need to be put there—is that the massive level of environmental and ecological damage and impact as a result of these fires has been played down, as opposed to the

quantifiable property damage. We know that Stromlo cost so many millions, that Tidbinbilla cost so many millions, that the loss to businesses in Kosciuszko cost so many millions and that the local property damage and the loss of houses in Canberra cost so many millions—but when we look at the environment, the ecology, the effects of erosion and siltation not just over the last few months but perhaps for years to come, that will impact on water quality here particularly for Canberra but also within the creeks, rivers, streams and lakes and that will then impact on aquatic species and those flora and fauna that rely on that environment and that ecology. We have heard nothing about that, and the cost of that is astronomical. There has been a loss of obviously many flora and fauna and a loss of habitat and protection. Really, they are the reasons why I believe and many believe that an ongoing program of strategic, prescribed hazard reduction burning covering not the whole landscape but a mosaic of the landscape on areas where the fuel levels can be mitigated is really the long-term solution that we need to look at.

I am concerned that the role and responsibilities of volunteers in many cases have in fact been usurped, undermined or compromised. These people have dedicated their lives to fire control work on a voluntary basis. There is a very massive and comprehensive training regime for volunteer firefighters, and it has been massively improved over the years. The equipment levels and personal safety equipment have been massively increased over the years. These people want to be tasked; they should be tasked. When they are ready to go, put them in there and put the damn thing out. That is really what must happen.

In closing, I think there is really a lack of consistent fire management objectives and plans between agencies and the three levels of government. We need comprehensive, legislative amendments so that we have consistent across-land tenures. As we know, fires know no land tenure and they will rage through the landscape—native or urban—and do massive damage. We must have comprehensive, legislative amendments out of this inquiry. The New South Wales parliamentary inquiry reported literally many, many recommendations—I have forgotten how many—and at least the first 10 or 20 of priority should have been implemented in legislation very, very quickly and they need to be consistent along land tenures.

We really must have a different look at natural resource management, and fire is a part of that. The history in Australia and the research I have done demonstrate that fire is a part of it. Our natural landscape is a result of a fire regime, and to ignore fire and to ignore the fuel build-up is really courting the same sort of disaster that we saw in January 2003. I think my submission goes in some length to deal with the particular terms of reference of the inquiry, with perhaps some suggestions for the future. I am happy to answer any questions.

CHAIR—Thank you very much for that. You mentioned the lack of response in the first couple of days, and this is recurring evidence that is being put before this inquiry, not only in this region near the ACT but also in Kosciuszko and Victoria. Have you got some thoughts as to why that was the case? Are there aspects to do with the management? Do people not understand who is in charge and where? Perhaps you could comment on that with respect to how the operational aspects were set up. As I understand it, management was initially run out of the National Parks building when there is actually a purpose-built control centre in Queanbeyan. Could you bring those matters together and give us your thoughts on that?

Mr Webb—I suppose the delays appear to relate back to a philosophy of the National Parks and Wildlife Service. Some fires started at the same time on private property or in New South

Wales state forests, and they were extinguished and contained and controlled within a day or two—and that is usually the case on private property. What happened here was that these fires started within the National Parks and Wildlife Service area. I think there was a desire to retain control of them or to not relinquish control to the Rural Fire Service, as the New South Wales parliamentary inquiry recommended.

I had a briefing from Tony Fleming, who is the southern directorate manager, or something like that, on I think the 9th. He said, 'We're running the fire out of the National Parks and Wildlife Service office in Queanbeyan. We think it's going to do this. We think it's going to do that.' I said, 'I think there's an urgency here. These fires can get away. We're in the middle of January and it's hot, dry and droughty and there are massive fuel levels.' He said, 'We're going to have a look at it on Saturday or Monday and go to the RFS then.' I said to him, speaking on a philosophical level I suppose, that I was very concerned about fires and the fact that we need to get in and have a prescribed burning, that we need to look at the past and all of that. I was quite astounded when he said, 'We don't think the Aboriginal record necessarily even occurred. We don't believe they did the right thing at all.' I think that demonstrates the philosophy of the National Parks and Wildlife Service hierarchy—not the personnel and the people who do the job. I would like to remark that the rangers and people who work out in the paddock and in the field for the National Parks and Wildlife Service carried out their jobs very, very well and did everything they could with the machinery and the equipment they had.

The delay that I think caused these fires to get out of hand related right back to that very senior level—the level that comes in from the Colong Foundation, the greens and other areas that basically says, 'We shouldn't intervene in the environment. We should just let the natural events take place. We can't have prescribed burning because it does negative things.' I just do not hold with that at all and I took Mr Fleming to task at the time. It was probably not the appropriate time with a fire burning in the Brindabellas and in the Kosciuszko area, but I did not have him in my office very many times when I was a member of parliament, so it was good to have him there and he did actually come and give me a briefing. But, quite frankly, it just was not a correct response at that time.

CHAIR—Following up on that, in your submission you talk about the difficulty in getting prescribed burns approved. You gave one example of an application to remove the very high fuel load of the timber windrows adjacent to the Dingo Road west of Brookvale and that permission was not given. First, what was the rationale for denying a prescribed burn in that area and, second, what was the subsequent result in that region with the actual fires?

Mr Webb—Beginning at the end of your question, the end result was that all of that load of timber was burnt and that meant the fire was really uncontrollable in those particular locations. Of course the fire jumped that trail and went on and came right through into Canberra on Saturday, 18 January.

The rationale that has been given to reduce an area for hazard reduction is manifold, and some of it relates simply to the fact that the windows of opportunity are not there, that you are going to put smoke over Canberra. One of the original problems about hazard reduction was in fact smoke pollution on an urban area. I really did not understand the other reasons that were given at the time to not allow the local Rural Fire Service brigade to carry out a very cool burn.

I think a lot of people do not understand—but surely the National Parks people do—that the fuels that are taken into account for measuring fuel loads from a fire risk point of view are everything smaller than a pencil. So you ignore completely aerial fuels and anything bigger than a pencil. A large dead tree on the ground and everything down to pencil size is ignored, and then you rake up in a square metre everything that is smaller than a pencil, right down to the mineral earth, put it in a bag and weigh it. It is very simple to do. Fuel levels in those areas of smaller than that size were 40, 50 or 60 tonnes per hectare. A cool burn in quite moist conditions would have got rid of all of that and probably not even burnt the larger timber. It would have reduced the risk.

But at the same time, when fire trails are put in, it is no good leaving a massive mound of dead timber et cetera on the sides of the fire trail. That just does not create an effective barrier. As I mentioned earlier, the overlapping timbers above are another reason to do it, but I think a reason that the National Parks do not like to remove that is that it removes an access point for fauna.

So the reasons are often pretty hard to grasp at the end of the day. When somebody is there saying, 'This is a risk. The fuel loads are high. We can't get in there during a fire. We want to do something,' and that permission is denied or the prescription is altered to such an extent that you just cannot do it, then people get pretty concerned about the next summer that is coming on.

Mr BARTLETT—Thank you, Peter, for your very detailed submission. Just following on this issue of who should control the fires, whether it is National Parks or RFS, you make the point in your submission that it is done better by RFS and in fact that the New South Wales parliamentary inquiry into the 2001-02 fires argued the same thing. Just for my information, when did the management responsibility transfer from the RFS to the National Parks, and why did that occur?

Mr Webb—I do not know that the responsibility was ever actually transferred to them. I think as the land manager in New South Wales they probably assumed the responsibility for fire management, and the Rural Fire Service in New South Wales has been evolving rapidly over the last few years since the New South Wales fire brigade—or whatever the previous designation was—changed. We must remember that national parks have taken on more and more area over the last six to eight years, and as that has happened the National Parks and Wildlife Service have assumed the management of those areas. I think that is how it has come about.

Mr BARTLETT—In your opinion, why have the recommendations about fire trail maintenance and hazard reduction not been taken up?

Mr Webb—In the first instance, I think that they are very difficult things to do. It is quite a comprehensive change in management and resourcing is needed to go out and do a hazard assessment on anything that has been designated or nominated as a problem. That was the requirement for the audit. If somebody identified a fuel risk level or a property risk level or a fire trail that was not maintained, that had to be audited and plans had to be put in place. So it is a difficult job.

In the second instance, I believe that there is a philosophical objection to hazard reduction burning and opening up a fire trail network that perhaps allows the public greater access into the depths of the bush. At the extreme level of that, the wilderness declarations in New South Wales

are the ultimate aim of that far green movement—to lock up the bush and not allow any sort of intervention. I think that the National Parks and Wildlife Service, as managers of the land, definitely have a problem in trying to come to terms with both of those requirements. They have by and large said, 'Well it is easier to do nothing. Let's stick our head in the sand. Perhaps we won't have another fire for five or 10 years and we'll be out of here by then.'

Mr BARTLETT—One would have to ask whether those philosophical objections are justified in the light of the damage that we have seen over the past couple of years—the loss of property and life. You refer in your report to the communication problems during that last fire arising from two sources: the uncertainties about the chain of command and also the very practical issues about incompatible radio frequencies, equipment and so on. Could you briefly suggest what we ought to do about the second of those problems? How do we effectively ensure that we have a much more workable radio communications system?

Mr Webb—There is certainly a major problem with on-ground fire communications with vehicles. Again, I was astounded that the New South Wales minister said on the radio that there was no problem and that every vehicle was in contact with every other vehicle. That is probably why the Mullion bushfire brigade out here to the west of the ACT have fitted all of their own UHF radios in their vehicles and have that closed control unit and operate as a very successful unit. Fairlight bushfire brigade went for some years without radios because we were given a PMR radio and it was never connected across the network. There are vehicles getting around with four or five radios in them with one chap—perhaps the driver—trying to monitor four or five radios within the vehicle and get things right. It comes down to logistics, control and resourcing. Practicalities of all of those things on a local level mean that radios are going to jam. If you have one network, it is just not going to work so you must have multiple networks at the state and regional levels, and at the local level of the fire.

Basically, the local level has been taken away from Rural Fire Service brigades unless they put them in themselves. I think that there is a need to do that but then the local operators and the training manuals have to be set up in such a way that there is a radio operator within the brigade monitoring the two or three levels of radios so that, in the last resort, in an emergency situation, there is still a channel of communication. If you have one bushfire vehicle with one PMR radio in it and you cannot get out and it does not work, you are in all sorts of trouble. You cannot get away from multiple radio types and then training and mechanisms put in place so that those are separately monitored and people do know what is going on—there is a chain of command back to control so that they know what is going on as well. It is difficult but it certainly can and must be done.

Mr BARTLETT—Is there a role for the Commonwealth in trying to bring about greater compatibility and uniformity or is it best left as it is?

Mr Webb—It does not work as it is and I believe that this is another area—and I am talking about radio communications across hundreds of kilometres in certain cases—where there are different levels of government and different agencies. I certainly believe that a lot of the legislative changes and the future amendments that are necessary—and this is in line with one of them: communications—should come from the Commonwealth. If it can be resolved and simplified to one level that would be a workable solution.

Ms ELLIS—Thank you, Mr Webb, for your submission. There is one particular aspect of your comments that I wanted to test with you. It is about the recovery phase of fire. You made quite interesting comments in relation to the insurance of property. Can I first of all ask you to clarify whether you are talking about all property or just rural property when you refer to insurance in your submission?

Mr Webb—At the end of the day it is easier to quantify property and therefore examine whether you can afford to pay the premium and have it insured or whether the risk is justified. Some of that work came out of the fact that some houses and some property were not insured and then there was the problem of compensation and so on. I guess it is also related to the fact—and I may not have mentioned this in my submission—that the funding for the Rural Fire Service in New South Wales largely comes through the Insurance Council as a result of people insuring their properties. So those who do not insure their properties are not making that same kind of commitment to the Rural Fire Service.

Ms ELLIS—I am not necessarily disagreeing with the philosophy behind what you are saying but I am disagreeing with the possible outcome of what you are saying because part of your argument is that if any ex gratia payments are made they should be made to people who have already insured and not to people who have not. That is fairly black and white but particularly in the urban areas of the ACT—and maybe to a lesser degree in the rural areas, but I just want to talk for a moment about the urban areas—there is incredibly strong evidence that most people were adequately insured but the real estate world we live in has changed and the houses in some cases were 30 years old and if they were rebuilt they would have to comply with completely new building and environmental standards and so on. I would suggest that scores, if not hundreds, of the people who were burnt out in urban Canberra are still trying to determine whether they can rebuild, regardless of the fact that they were adequately insured. I guess I am testing to what extent you believe that your theory—that insurance is fine and ex gratia payments should go to those who are insured—should be followed through when the majority appear to be either adequately or inadequately insured. There are certainly a number who were not insured but they seem to be in the minority. I suggest, for the sake of the discussion, that if I—and I live in urban Canberra—wanted to continue to believe my house was adequately insured, I would probably have to increase the premium every three months, as would people in Sydney, Melbourne and elsewhere, given the real estate reality. So I just want to ask: to what degree do you think this is so important that you would put it in your submission?

Mr Webb—I believe that people must have responsibility for themselves and their property. We hear at every fire that X number of houses in the streets were burnt: so many were insured and so many were not. I think in New South Wales the Premier went along and said, 'Here's $10,000. You didn't have your house insured. Bad luck; this will help you get on.' But the people who were insured had to go through all the hoops and hurdles of having the thing assessed, having the job done and then probably realising—as you rightly say—that they were underinsured. It usually is the case in the property market.

I think it is important that the committee and governments look for ways in the future that the community can be educated to take the risk on themselves. It is about identifying the risk and the threat at the same time as identifying what the insurable value is. I think it is important in that respect but, to my mind, it is nowhere near as important an attribute to look at in the terms of reference as the prevention of the fire in the first place. I would only put a reasonably small

weight on that at the end of the day. I would leave it up to the Property Council, the Insurance Council and governments to come to terms with it.

Ms ELLIS—There is no doubt that the important piece of our work is the possible future prevention, but we live in a bushfire country and there will always be houses and properties burnt out, no matter how well we prepare. That is the inevitability that we have to face. I am not for one moment devaluing the importance of our work in looking at prevention, but there is the reality that we have to deal with as well. The reality is that there will always be bushfires and there will always be damage. What I think we are talking about is maybe minimising rather than eliminating.

The other point to make in this part of the discussion is the community infrastructure side of damage. You and I and most people in this room would understand very clearly the financial impact on community infrastructure organisations in terms of cost of insurance, despite their very best intentions. Again, I am just being cautious, I guess, about the degree to which we need to vehemently chase up the issue of penalty applied to people after they have suffered damage, given that much of the outcome in financial terms is beyond their control, in reality. I just wanted to make that point and get it on the record in relation to the comments you made.

Mr Webb—I take your points.

Mrs GASH—Thank you for your submission; it was very comprehensive. You referred in part to the RAFT resources, which is rather of interest to me, coming from an area which includes the naval air base at Nowra. Could you describe why the delays occurred and how much better it could have been?

Mr Webb—I do not know why there were delays. In Kosciuszko, a fire at Tuross Creek—I think it was called—up in the high range was in fact controlled very quickly after an earlier lightning strike by those methods. There was an article in the *Daily Telegraph* in April or May which really lauded the ability of RAFT resources to get in and put a fire out quickly. I cannot explain why they were not used in the first two or three days in the McIntyre's Hut fire, the Gingera fire or the Broken Cart fire—those pretty inaccessible places. I have not had training for it myself but I know that many local rural fire service areas can very quickly call upon the resource. There was a plethora of helicopters called in weeks later to control these fires. If those helicopters had been sent there on 8, 9, 10 and 11 January, they would certainly have controlled those fires, I believe, very quickly.

I do not have an explanation and I am quite concerned about it. In fact, I did speak with a member of the Rural Fire Service in Queanbeyan and questioned why the RAFT resources had not been used. I was actually quite amazed that this person responded by saying, 'We don't believe that the smoke jumpers are very high risk. Look at the death rates in the United States,' and this sort of business. I said, 'I'm not talking about smoke jumpers, I'm talking about our helicopter teams that are put in and have been used very successfully in the past.' I do not have an explanation as to why they were not used in the first few days.

Mrs GASH—Who had the overall control of those units?

Mr Webb—The Rural Fire Service. It would have been a simple case for the incident controller, in the first hours and days of those fires, to make the assessment to get those RAFT crews in.

Mrs GASH—I will go to another question with regard to the volunteers. Could you tell us what the morale was like with the volunteers when they were called on duty and there was not enough equipment for them to use?

Mr Webb—There were several cases to do with the morale of volunteers. A lot of them contacted me and there was certainly a lot about it in the media. They were called up and not tasked, so they were just waiting around. They could see that a job needed to be done but jurisdictions and so on prevented them from just getting in there and doing it. They turned around and went home, and they are embarrassed and disappointed that their effort was not taken on board. I think it is important that many of them are there and they want to work. If they are trying to work with inadequate machinery, such as two-wheel drive equipment in four-wheel drive country and so on, it places them in a dangerous situation and it is also undermining their commitment to the protection of life and property. A lot of them speak to me about it.

Mrs GASH—What has the attitude been like with them now that the fire is over in terms of trying to sort out what has gone wrong and how we can fix it, which is particularly the reason for this inquiry? Have they been involved in that restructuring process?

Mr Webb—Yes, I believe they have. The first words that we were hearing—and I have heard this from many of them since—were, 'We're not going to go into the national parks again. We'll wait on the edge for it to come out or we'll protect other areas.' Further to that, the Rural Fire Service Association have had some meetings with the government in New South Wales to try to get to the bottom of why things failed and to come up with some terms so that they will be a much more effective unit in the future. It is a case of funding equipment properly and making sure that there are not any old and unsafe vehicles around—yet we know there are. I think the training levels are pretty good and the personal safety equipment is pretty good, but from a RAFT point of view that is probably the extreme. We need to look at those issues, right through to the tasking of the task forces that come from elsewhere and making sure they arrive quickly enough.

Mr MOSSFIELD—Thank you, Peter, for your submission, and I would like to thank everyone who put submissions in and thank the people who were involved in our inspections on Friday. It has been very valuable for someone like me who is starting from scratch, because we need to understand the issues. I think it is fair to say that there are some competing arguments here—the one which has been put by you and others as against the one put by land managers. We have to test both of those views, so we need to ask questions as to why you think the arguments from National Parks or land managers will not stand up.

Before we move to the general issues, I would like to touch on the point that Annette made relating to the people who lost their houses in the fire—particularly in the developed areas, such as Duffy. I would put a fairly high level of importance on that. In talking to those people, we have found that insurance does not quite cover them to the extent they would like and the cost of materials and the cost of rebuilding are beyond their insurance expectation, and even the GST has had an impact. That was mentioned. Do you think the committee should make some

recommendations to the government to help those people who have adequately insured but whose costs are not being covered by insurance? Have you got any views on that?

Mr Webb—I have. I think it is important that people understand the nature and type of buildings, and you have to weigh that against their wanting to live in the bush, in the bush environment. So it is a case of risk versus—

Mr MOSSFIELD—No, excuse me, I would not call that the bush environment in a clear residential area. I think they are quite across a highway to the actual bush.

Mr Webb—I guess we may differ there in our term. I would have thought that, with many of the houses that were burnt, their proximity to the pine forest puts them pretty close to a bush environment, knowing the history of fire and the spotting potential. One of the things that I detailed earlier in my submission was the concern for houses east of Black Mountain in Canberra. I think it is something we need to look at, because if the Christmas 2002 fires had not occurred, we could have been looking at two, three or four times as many houses lost in Canberra. It is called the 'bush capital'. Houses pretty close to Black Mountain and pretty close to the urban-bush-farmland interface need to be constructed out of fireproof materials and they need to be designed to prevent fire intrusion if possible. We need to take into account their gardens, the rubbish, timber fences, water outlets and sprinklers—there are a whole host of things that the inquiry, along with the Insurance Council, should look at so as to come up with building standards and building codes that can be adopted in the future.

Even if that is done, 10 and 20 years down the track we are still going to have weatherboard houses in O'Connor and gutters full of leaves. At the end of the day there is a massive need to educate people and to have preparedness within the local bushfire brigades and the urban fire brigades in the hope that you could stop fires but always in conjunction with properly managing the bush and the fuel loads as well. I hope that answers your questions.

Mr MOSSFIELD—I do not think you have mentioned the drought. Could you give the committee some understanding of the effects that the climatic conditions and the drought had on the bushfires last Christmas and what has applied on previous occasions?

Mr Webb—Certainly. We are in a drought situation and the rainfall records will demonstrate that. What that simply means for the bushfire situation is that there is a higher rate of fall of combustible material and it is drier as it lies on the floor of the forest. The soil moisture levels within the ground are also diminished so that you have a much more combustible product. Fifty tonnes of litter in the middle of January in a drought are a very much more serious risk than that same level in a moister environment in moister years. I think we have to remember that the whole of the nineties have been drought years—very dry years—and climactic indications are that it may well continue like that. The drought is bad and certainly had an effect on the fires. The 1983 Namadgi fire followed a drought situation and I think the potential for a fire to do a lot more damage and consume a lot more of the fuel in dry times is a lot greater.

CHAIR—I want to finish with one question. In your submission you referred to the National Parks and Wildlife Service classifying trails as management trails as opposed to fire trails. Could you explain what the physical difference is and also what you think the rationale might be for having a trail which might be a management trail but is not able to be used as a fire trail?

Mr Webb—Simply, a lot of management trails are for small four-wheel-drive vehicle access. It does not matter whether the canopy is closed over the top and it does not matter how much fuel is on either side of those roads. Compare this with a real firebreak which has to be cleared for so many metres on either side by slashing or other means on either side of the track, wide enough for vehicles to pass and to turn around and without a closed canopy in many areas. The New South Wales government again seems to designate some things as management and some things as fire and they are not always compatible. I read a recent media release in which they talked about allowing prescribed burning in fire management zones. The same thing applies; somebody will sit down with a map and designate something as being a fire management zone and we can do something within that but the rest of it we cannot touch. That really means that wholesale strategic prescribed burning is limited to those areas rather than being able to look at the whole environment and have a manageable fire trail network which can be used to quickly get in and control fires by whatever means are necessary.

CHAIR—In your experience, were some of these management trails originally fire trails which have conveniently become management trails perhaps?

Mr Webb—For a lot of them, that is the case. A lot of them were put in originally as fire trails. Some trails are put in during a fire and are closed afterwards, and rightly so, because they are too steep or are in the wrong place, and that is fair enough. That is a small proportion. Many of the others, once in, should be maintained on an annual basis or every second year so that they are wide enough to get heavy machinery in very quickly, without days and days of delays, and without having to put in culverts and engineering works. That is what happened in Kosciuszko. They really must be maintained as fire trails. That is a different category to just a management trail

CHAIR—Thank you very much once again for your submission and your evidence today. We very much appreciate the work that has gone into your submission and the recommendations that you have also put forward will be useful for the committee in its deliberations when it is putting together its report.

[10.47 a.m.]

CARNELL, Ms Kate, Executive Director, National Association of Forest Industries

TOWNSEND, Mr Phil, Deputy Executive Director, National Association of Forest Industries

COCHRAN, Mr Peter Lachlan, New South Wales State Manager, Timber Communities Australia

FRANKLIN, Ms Noeline, Consultant, Timber Communities Australia

LEWIS, Mrs Jill, National Director, Timber Communities Australia

CHAIR—Welcome to today's hearing. Although the committee does not require you to give evidence under oath, I advise you that these hearings are formal proceedings of the parliament. Consequently, they warrant the same respect as proceedings of the House itself. I remind witnesses that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. We have received each of your submissions, for which we thank you. They were very comprehensive submissions from both organisations, as was the separate submission from Noeline Franklin. I remind you that your submissions are all on the public record and therefore have the same status as the evidence you will give today. Would you like to make some brief opening remarks before committee members ask questions?

Ms Carnell—Yes, we will make a brief opening statement. We understand that the committee has read our submissions and the recommendations that we have made, so we will not go over them. We are also aware that the committee has conducted its own inspections of the areas that were devastated by the bushfires, and we want to emphasise a couple of very vital facts about these events. We are concerned at having heard some people say that the forests will regenerate and are regenerating. The fact is that in many areas the destruction was not partial; it was absolute. Many of the forested areas have been literally destroyed and will not regenerate until a wholly new ecosystem develops from the ruins of the old. We think it is appropriate to show very briefly a couple of photos to reinforce that view. I will hand over to Mr Townsend to do that.

A PowerPoint presentation was then given—

Mr Townsend—We have noticed that over the past 15 years there has been a substantial change in the way the land has been managed. In particular, there has been a move away from fire prevention to fire suppression. Where fires occur after lightning strikes, a committed effort is made with personnel and aircraft to try and put them out. However, the National Association of Forest Industries knows that no one solution suits all ecosystems and a range of solutions needs to be introduced.

The area on the left-hand side of the picture presented is around Talbingo Mountain; it was burnt in a back-burning operation last year. You can see that it was burnt again in the fires of

2003, but the ecosystem exists and is operating in the normal way. Most of the trees survived, there is some death in the middle, but you can see that last year's hazard reduction helped prevent the intense nature of the fires this year. On the right-hand side, only a few kilometres down the road closer to Kiandra, you can see the absolute cremation of the alpine ash forests. If you have been in this area, you would have seen that the snow gum forests are in the same state; nothing is left on the ground.

Also during the bushfires huge amounts of greenhouse gases were released. Many people have said that they will just be reabsorbed in the forest, but unfortunately that will not be the case. In most of the areas where the fires went through, huge blackberry infestations are starting up. This is an area that was burnt a number of years ago and you can see absolutely no regeneration is occurring on the ground. All that is happening is that blackberries are taking over in those areas that have been burnt. You can see them to the south of Canberra. As you move through Kosciuszko National Park, blackberries in their thousands are taking over.

Forest industries was aware last September that a major fire threat would be posed during the then approaching summer and it put in place a committed response to that. That response required the use of machinery and personnel. It had a comprehensive approach for dealing with the lightning strike threats they faced, and that included the use of equipment. In addition to bulldozers, we have forwarders and skidders; machinery that is operating in the forests on a day-to-day basis is there ready to go in and help put the fires out. It is part of a committed response.

The fire trail shown on the left was used to deal with the native forest fire that is in the right-hand photo. That fire trail is maintained for normal forestry operations and was able to be used to get in quickly with the equipment that is located in the area. A bulldozer was used to cut out a fire trail. The fire was on the right of that line and, by getting in and suppressing the fire quickly, firefighters were able to stop it within 24 hours. This was the largest of the native forest fires, and unfortunately I do not have good photos to show you of what happened in the plantations where there was similar control of the fires.

To the south of Canberra you can see that the fires have had two different impacts. On the left-hand side underneath the forest it is not snow that you can see but bare, exposed soil. On the hills you will see that no gullies are left to allow regeneration to occur; all the vegetation has disappeared. In this area again, rather than natives, blackberries are the dominant vegetation coming back across the landscape.

At the other end of the scale areas that were lightly burnt by the forest fires are going through active regeneration, and this will cause its own problems. With these problems the key outcome will be the use of water. Every year, over the next five to perhaps 50 years, in the regeneration process something like 1,500 gigalitres of water will be taken from the headwaters of the Murray, Murrumbidgee, Snowy and Hume catchments. That is, roughly one-eighth of the total water supply of the Murray-Darling Basin will be absorbed in the regeneration process. That will have major impacts for our farmers and the community.

Before I hand back to Ms Carnell, I will talk about some of the other issues of importance to the forest industries. One of the key criteria that you are looking at in the terms of reference is the use of timber for building and construction activities in bushfire prone areas. The evidence

continues to accumulate that houses do not burn down because of the passing fire front. They burn down because they are incomplete or because embers get in either under eaves or through broken windows and burn the houses down from the inside out. There is no indication that demonstrates that timber cannot be used. I have a slide that shows a house that has won a number of architectural awards. You can see that there is timber both outside and inside the house. The key element is the distance to vegetation around the house and the importance of having some fuel reduction activities around the house, rather than being concerned about preventing the use of timber in bushfire prone areas.

Ms Carnell—The message that we really wanted to get across today was that this was not just another bushfire. It was not one of those things that we should expect every few years. This was the worst environmental disaster in the written history of this nation. The amount of greenhouse gas that was emitted during the time when three million hectares of Australia burnt was equal to all of the greenhouse gases emitted by every car and every truck in this nation for a full 12-month period. That shows the level of greenhouse effect of this fire. Three million hectares is a lot of Australia.

Mr Townsend has already spoken about the water effects. The effects are not just for two or three years. For the first few years the water effects will be quite the opposite. In fact, the run-off will be significantly higher. We will see erosion and the problems that we have seen around Canberra, with run-off into dams and water reservoirs actually causing significant pollution. After that few years, when regeneration starts to happen, we will see the opposite. We will see a significant reduction in the amount of water that flows into the Murray-Darling, reductions that really make the amounts of water that many people are talking about putting back into the Murray-Darling seem quite insignificant. This is an environmental disaster. We must not just accept it, and we must not let it happen again.

To ensure that we do not see this sort of environmental disaster again, we need to reduce the forest fuel build-up. We need to ensure that there is rapid access to areas that are fire prone, that there are trained people in place and that there is a strong and viable forest industry, with trained people able to go in with the equipment we saw in Mr Townsend's photos a minute ago. How will we achieve that? NAFI would like to recommend to the committee that we look seriously at stewardship contracts. Under these contracts, local businesses and not-for-profit groups would provide specified environmental and land management services and fire risk management—such as access, by keeping trails open and so on—in return for being able to remove excess fuel from the forest as firewood. This would create jobs in local and regional areas and be a cost-effective way for government to keep national parks healthy and the fire risk low. Along with standard hazard reduction burning, this could and would ensure that the bushfires of the future burn at a significantly lower temperature and do not cause the environmental disasters that we have seen over the last few months. I have spoken about the overarching environmental problems, but there were people problems too; we know those in Canberra better than anywhere. I will hand over to Jill to talk about the community issues.

Mrs Lewis—I thank you for this opportunity to present another view, that of a national grassroots organisation like Timber Communities Australia. Predominantly we are here representing 13,000 of our members across the nation. Most of those members are volunteers. They volunteer to help not only Timber Communities Australia, because they have the heart in

rural communities, but also other organisations. They are probably the key people in rural communities across the nation.

A great number of our volunteers are also volunteer firefighters. They are not only TCA members but actually there on the ground when and if needed in bushfires. They are also an integral part of the rural communities. Their local and general knowledge of how, when, where and why to combat wildfires is irreplaceable. This knowledge must be lived; it cannot be learned. It cannot be gained from desktop administration from a remote area; it has to be on the ground. A lot of our members also supply, as Phil mentioned, necessary equipment, like bulldozers, so that they are actually there for a very quick and effective response when a bushfire alarm goes up.

The bush is their heritage and their history, not only for the management of forest practices over the years—they can feel climate changes before they come; it is embedded in their minds. This great hands-on experience is a valuable tool when dealing with disasters such as we have just experienced. These volunteers put their lives on the line to help save the environment, often to the detriment of their own businesses. These people run small businesses that make up core communities, and when a bushfire alarm goes off they drop their own businesses, neglect their families and that business to go and help the environment, often in national parks. An example is a member of TCA, Dennis Stannard, who is in the Rural Fire Service at Wandandian on the South Coast. Dennis has been a member of that bushfire brigade for many years. In the 2002 fires, Dennis was away from his family for a period of about 11 weeks, fighting fires. During that time his family were evacuated twice. This is something that Dennis has tried to learn to live with, but we see that the stress that has caused has affected Dennis and his family. Dennis is just one person—there are literally hundreds of people out there who have been affected.

We look at the Otway branch in Victoria, through the Our Future, Our Forests procedures. There are actually people, including contractors and bush workers, who, even though they faced the loss of their jobs and their livelihood, put their lives on the line this year to go and fight the fires in Victoria. These people are precious to us and they are precious to the Australian economy; their expertise, as well as their machinery, should not ever be forgotten—and we need to ensure that it is not lost.

The removal of waste from the forest floor is another key issue we need to bring up. For generations we have all heard about proper forest management. It is a noted and undeniable fact that the National Parks and Wildlife Service have been, to say the least, very slack in their fire hazard reduction implementation. There simply are not enough resources available to them to carry out efficient management practices. We need to take a broader approach when looking at hazard reduction and perhaps look to the highly significant firewood industry in Australia. This industry directly employs 15,000 people. Many of these people are in family businesses and have a significant, positive impact on the environment. I am sure people will agree that this is not a small number of jobs that we are talking about. The two management plans, hazard reduction and firewood collection, should be united to ease the risk for the future—that is, jobs plus environmental management can equal growth and ownership.

The TCA submission clearly shows that the destruction and, in many cases, the extinction of our animals is in some ways even more devastating than the loss of our native vegetation. Feral animals—for example, wild dogs, foxes, pigs and goats—have been driven out of the national

parks and onto private property in many cases, and are forced to feed on whatever food is available, thus having a big impact on domestic farm animals. Kangaroos and wallabies are more noticeable in Canberra's suburbs, and there have even been reports of people being attacked while collecting their mail from their front lawns. These kangaroos and wallabies are coming down from the mountains because there is no fodder there for them. I will not go into that area anymore, because Noeline and Peter have more expertise than me.

The social impact of these wildfires has been felt across the nation. People are asking themselves: 'Why have we let this happen?' The answer, to me, is quite simple: the states have listened to green rhetoric and have put good management and commonsense on the back burner for the sake of a few votes in some cases. In some agencies the social implications of the lack of sound management in our forests, and especially our parks, have been ignored. As a result, now we have landowners and managers struggling to control feral animal infestations and the supply of fodder for their stock. The people that lost their homes, and those that came perilously close to losing their homes, will never forget the impact of the bushfires.

New health issues have arisen: stress, nightmares, panic attacks. I acknowledge the huge effort that has been put in by all of us that were lucky enough not to lose our homes, but this now must be followed up with the good implementation of sound forest management and a plan that incorporates all tenures—that is, hazard reduction on crown land, state land and private property, along with grazing in the high country and encouragement for small businesses to actively help manage our parks and reserves. This help should also involve Indigenous communities. They have a sound concept of firestick management, as was carried out by their ancestors.

In closing, I would like to leave you with a few more recommendations. I recommend that a sound management plan program be implemented as soon as possible and practicable; that follow-up surveys and reports be undertaken at, say, 12 months and then again at 36 months and 60 months to properly manage and monitor the progress of land management—or lack of progress—that a true and accurate account, where possible, be kept of actual flora and fauna losses and ongoing breeding patterns of our fauna; that volunteer firefighters be appropriately recognised for their time and efforts, for their experience is invaluable and definitely irreplaceable; and that the findings of this committee be published and a strong recommendation be made to the states to accept the findings and act accordingly.

I would like to leave you with a quote from Congressman Denny Rehberg of the US. Denny is a member of the House Committee on Resources for the healthy forest initiative, 1904 in the US. He said:

> Self-proclaimed preservationists for too long have gotten away with literally loving our forests to death, tipping the scales of our justice system against doing the right thing … [This bill will] focus on common-sense partnerships with local managers who know how to keep our forests safe, while protecting communities and property from the threat of wildfires.

We need to get to the bottom of the problem and then work towards prevention in the future. Thank you.

Mr Cochran—My remarks refer specifically to the Kosciuszko National Park fires and periods leading up to those fires this year. I have had a lifetime—58 years—of experience in the Kosciuszko National Park. It is in my blood. As a child, at 18 months of age, I was carried on the

pummel of a saddle from one side of the Kosciuszko National Park to the other; on the front of the saddle, in front of my mother. From that time on I have lived and breathed Kosciuszko National Park and all the inherent risks that have been bred out of the management regimes that have occurred over those years. I have been a bushfire brigade member for 40 years; I have been a fire control officer of the Cooma-Monaro shire; I chaired the New South Wales parliamentary inquiry into the 1994 fires; I have been the shadow minister for emergency services; I flew in and fought fires in Canada in CL415 Canada aircraft; and I have been mayor of the local council in the Cooma-Monaro shire, a firefighter again and now a victim of these fires.

The point I want to highlight to this committee more than anything else is that during that period of time nobody has ever learned from experiences of the past. If this committee achieves nothing else in its deliberations, it has to insist that those in authorities that are responsible for the management of land in this country take responsibility for the incredible destruction that is brought about on the environment as a result of their management practices. That has to be the ultimate aim of your committee, to ensure that those land management authorities understand that whatever policies they implement they leave behind the legacy for the rest of the people in future generations. The fires that occurred in the Kosciuszko National Park need never have happened. In 1929 there were huge fires but nowhere near the dimensions of the fires we have just experienced—about 10 per cent of the land area of the fires we are discussing now. Those fires were fought by firefighters on horseback with wet bags and matches, not with the massive equipment and communications that we have now and which are available to firefighters.

I can recall riding through the mountains as a child with my parents and the old stockmen in the days when we mustered the cattle in the autumn. As we rode through the mountains they would throw a match down and burn four or five acres into the patch that may have been burnt the year before or the year before that. The livestock would leave behind country which had been grazed during the summer time under the control of the rangers and the land managers of the day, all working in a cooperative way to the benefit of the environment. I saw, in those days, mountain stockmen who loved their country and ensured that the land was always left in a better condition than when they found it. There were some who maintained the mountain huts—and we saw 19 of the huts destroyed in these most recent fires under very questionable circumstances in some cases.

During that period of time—those 58 years—I have seen a politicisation of a fire organisation which Australia saw as one of our proud icons, in the true sense of the word. It was something through which volunteers not only protected their own property but, as in times of war, protected the properties of their neighbours. These people were not controlled by a bureaucracy; they were controlled by a will to protect their property and the property of their families and their friends. That is not the case now. Political dimensions have changed the face of firefighting organisations in this country—and much to the worse. I believe that the New South Wales fire situation is the victim of politicisation from all sides of politics and if one secondary response from this committee is to ensure that the politicisation of the fire brigades is removed in some fashion then that will be of immense benefit to the outcomes of the environment and the firefighters.

We can no longer have a situation in which the commanders in the field are making decisions based on a political situation. It would not be the case that Peter Cosgrove would make a decision in East Timor based on what John Howard had said at home. That was the case in Vietnam when I was there. Decisions were made by young commanders based on the strategic

need at the time, not on what some politician was saying at home. That has to be the case for firefighting. Politics has to be removed from the fire front and from the mitigation stages of managing fire. We have to take the politics out of fire mitigation; we have to take the politics out of land management in order to reform the situation which has become untenable for the firefighters and the environment in this country.

Ms Franklin—As I stated before, I assisted with the timber industries association submission. I am also a landholder and a neighbour of Kosciuszko National Park, which proceeded to burn our family's farms. I endorse much of what has been said. I believe that conservation land management in Australia is dysfunctional for bushfire risk management, biodiversity retention, forest cover and water catchment security. As I understand it the Commonwealth has international obligations to retain biodiversity and forest cover, and I have great fears that those goals will not be reached while ever we leave ourselves vulnerable to large area fires, which I believe—and our family has believed this for many years—can be mitigated considerably by good land management practices.

Our family has had an association with the Snowy for in the order of 160 years. We found an open forest, scattered grasslands and suppressed understorey. In good faith as stockmen—and some of our family have also gone into the forest industries—we maintained what we believed was that very important vegetation structure. We did it with grazing and selective logging. I believe in the 1939 fires, which probably occurred in a more extreme climatic circumstance, the recovery spoke for itself, in that the basics of seed reserves, topsoil and humus were all there ready to go when the rains came—and quite often areas were in recovery before the rains came. The fires in 2003 are a totally different item, as you can see from some of those photos there. As I understand it, the force of the energy which was expended in the Cotter catchment basin was 24 times that of the Hiroshima bomb. I believe that if anybody goes out there and looks at that country, they can quite appreciate the comparison between a nuclear blast and what has happened out there.

As a family that has made a number of submissions over some 30 years asking that the fuel loads in our public land be addressed more sympathetically, we are appalled. As we drive into Canberra the vehicle still becomes silent. We believe there has been a very needless disaster. Our family has tried to maintain our grazing and prescribed burning efforts, and I believe that we have been intimidated and obstructed and that process has been frustrated. I think Canberra has paid a very big price—and certainly our community has. I would like this committee to facilitate a major change in how we manage our public lands and how we interact with community to support them to tackle fires quickly in the middle of summer, if that is expedient, and support them to install appropriate land management practices.

As a scientist in the biological area, I believe much of the science that has legitimised poor land management in our public land is rather shonky. I would certainly encourage this committee to go forward and analyse that science in the context of public submissions that have been put in to state governments and coroners' reports, which are now secret to the public. I believe that we need to bring about a number of legislation changes so that our fuel loads can be looked at and addressed in a number of fashions, whether that be wood for pulp, firewood, grazing or selective thinning of forests. All of these things need to be looked at and applied strategically across the region.

The other way forward that I see is that we declare severe large area fire the most significant key threatening process under the Commonwealth Environment Protection and Planning Biodiversity Conservation Act 1999. I would like to be able to trigger a process where that be nominated and accepted. I also believe that public land managers, local rural communities and various agencies should enter cooperative referral and fuel load management programs. I personally have been involved in a wild dog management program, as Mr Chairman will be aware. I was looking at trying to apply that same approach and process to fuel management, but January 2003 did not allow me to get that under way. We would like to work out during that planning process whose fire it is when it does occur and hopefully we will have the environment prepared to alleviate the severity of impact when it does occur in severe climatic conditions.

CHAIR—Firstly, let me ask about the morale of volunteers? Perhaps Jill Lewis or Peter Cochran might comment, because your organisation is very close to those. We have taken a lot of evidence and a lot of submissions that demonstrate there is some frustration and anger out there among the volunteers in their reactions to or interactions with the bureaucracy of the various organisations. Can you shed some light on how you see the role of those volunteers in the future?

Mrs Lewis—Thank you for the question. I would just like to draw attention to two Rural Fire Service groups that I have dealt with since the bushfire in Canberra—one at the South Coast in the Wandandian area, and the other a bushfire service that came up from around the Eden area. The Eden volunteers got to Michelago, believing that they were desperately needed. They were told to hang about until their orders came through and it was suggested that they might play a game of cricket while they were waiting. A few hours later they were still sitting around waiting, and they said, 'We are going home. Call us when you need us. We are going home to look after our own back doors.' The same thing happened to the Wandandian group. They actually came out. They were to the west of Canberra. They stayed for two days. In those two days, they were not required to help with the hands-on firefighting that they had the experience and expertise in, so they also went home.

I have spoken to members of both of those brigades who have been very disheartened. They felt that their on-the-ground experience was never called for and it was not once felt that it was needed. Even though those people had been successfully fighting fires for many years and had actually put in hundreds—if not thousands—of firebreaks that had been successful in their own area and in other areas, the National Parks and Wildlife Service had stopped them from putting in firebreaks, because they felt that they were too wide. So I do not believe that the morale of our volunteer firefighters is anywhere near where we as a nation should expect it to be and should nurture it to be.

Mr Cochran—There are basically two groups of volunteer firefighters in the Rural Fire Service. There are those who are employed either by the councils or the Rural Fire Service—fire control officers. They are known as the 'white shirts.' Unfortunately the morale of those in the brigade levels—particularly in the rural areas—is particularly low with regard to their attitude towards the hierarchy that manage the Rural Fire Service. I say that with some authority because I attended a meeting in Orange just recently where the view was expressed by volunteers that they felt as though they were unrepresented through the Rural Fire Service Association. As a former fire control officer and a member of the Fire Control Officers Association, I can relate to that. I saw the gradual politicisation of that organisation, and it has degenerated to a point where

volunteer firefighters now believe that that organisation, having amalgamated with the old Rural Fire Brigades Association, does not represent their views within the hierarchy. That is to the operational detriment of the organisation, in that there is now a them and us situation, given the fact that fire control officers are in the employ of the state government as opposed to local government councils.

When I was a fire control officer—and I am talking about 1984 to 1988—fire control officers were regarded as part of the community and there was a pecking order there, from the captain of the brigade downwards. The bushfire brigade captain was generally regarded as a senior person in the community. He had bush wisdom, he understood the land and the local environment and he also understood the environment itself and how best to protect it and the families and communities therein. What occurs now, through the hierarchical and rather autocratic system that has been developed through the Rural Fire Service, is that the direction is given from above as to who will captain the brigade and who will not. This is decided either on the basis of the qualifications that they are required to have or through an almost political manipulation of who should be in charge and who should not.

With regard to fire control officers in particular, fire control officers who are very unpopular are often appointed to regions. This has resulted in community conflict. In areas across this state I have seen unparalleled conflict within individual communities over fire control officer appointments. Such situations—one of which I mentioned earlier—have to be resolved. The politicisation of the bushfire brigades has reached a point where it is untenable for firefighters.

Mr GIBBONS—You mentioned that the timber houses or dwellings in these forest areas are quite adequately secured from bushfire damage if they are planned right, as you pointed out, through architectural design. What about the radiant heat created by the intensity of bushfires such as those we have just seen? Wouldn't a timber house be a little bit easier to ignite, if the temperatures were at such levels as those acknowledged by the last speaker? Wouldn't a spark against a timber wall cause that to explode, whereas a masonry or steel dwelling might not?

Mr Townsend—No. The finding is quite the opposite, in fact. It is generally not the bushfire front that causes the houses to burn down. Even where they burnt down at Duffy, the preliminary findings of the CSIRO team, which has had experience over a long period of time, as we mentioned in our submission, is that those houses at Duffy did not burn down from the fire front passing. Where they burnt down because of radiant heat there was one house on fire right next door and the radiant heat came through that way or there was vegetation really close to the house and it caught on fire and therefore the radiant heat came from there. So it is nothing to do with the fire front, in general, passing through. Timber is quite a safe product to use. It is how you work around that house to protect it from the bushfire events.

Mr BARTLETT—Just related to that, you say the exposed timber is not vulnerable to fire fronts. A lot of the other evidence we have had has indicated that the problem is not the front; it is the ember attack ahead of the front. Is it fair to say that exposed timber is more vulnerable to ember attack?

Mr Townsend—No. In areas where they have studied fire events, they have found it is where embers can get in and accumulate—particularly where houses maybe are not finished so there are open eaves. They call them inadvertent openings, for want of a better term. The embers can

get in and accumulate somewhere around wood, where people have trouble getting in, fighting them and putting them out.

Mr BARTLETT—But presumably accumulation embers on a timber deck like the one in the photograph you have there would be a bigger problem than accumulation embers on a metal roof, for instance?

Mr Townsend—Depending on the concentration and size of embers, you will have impacts on the other building materials, but again this requires somebody to be there to put out the embers.

Mr BARTLETT—Mr Cochran, you mentioned the change in employment of fire control officers—from local council to state government—and the impact that that has had. I think you were talking about the impact on morale. I am interested in your views in terms of the impact of that change of employment on operational efficiency and effectiveness. Firstly, has it had much of an effect there? Secondly, what has been the view of local councils regarding that change?

Mr Cochran—You have to remember that in the past the fire control officer was somebody who assumed or was appointed to the role as a result of having demonstrated that they were, within the community, somebody who could be well regarded as a wise firefighter. With regard to the operational effectiveness of the organisations as a consequence of outside fire control officers being appointed, in a number of cases where outside appointees have come in without the respect of the brigades they have come in as members of the white shirt brigade, known in many instances—and I will not bother to go through the names but a lot of them around the rural areas of New South Wales know who I am talking about—as Koperberg's men.

Commissioner Koperberg has extraordinary power over the fire control officers with regard to their appointment, their salary levels and the power within the rural fire service itself. Fire control officers, many of whom feel intimidated by the commissioner, are reluctant to express their personal views as to the operational management. This is what I meant when I was talking about the politicisation of the whole of the rural fire service. It starts from a point where the Greens have influence on the government of the day, seeking exchange of preferences at election time. It filters right the way down through the minister and the minister's offices into the operational control through the commissioner. I have to say in this committee that the current commissioner, Phil Koperberg, has become a part of the political process in New South Wales, and that is regrettable. He has delivered an extraordinary amount of equipment and benefits to this state, but he is now seen as part of the political process in New South Wales. He has been offered a seat by both the Liberal Party, through Ted Pickering some years ago, and the Labor Party, through Bob Debus, so he is prepared to weigh his sides, but he is certainly a political animal. I believe he used his political influence during the last state election campaign—and Peter Webb gave evidence of that during the campaign for the recent state election.

Mr BARTLETT—The problem is more a structural one regardless of who is in the role—it is a structural problem rather than a personality problem.

Mr Cochran—The structural problem is that the person who is the fire control officer has to be given control of the firefighting within their own domain—within their own fire district—in order to maintain the loyalty, the comradeship and all those aspects that are necessary to develop

at a time when there are no fires. That needs to be continued into the fire front, so that respect is given to the fire control officer through his obvious ability to manage and control and through the continuity and the management skills which are there. What actually occurs is that, as soon as a major fire occurs now, a section 44 is declared and somebody from the outside comes in and takes over the fire. Many of the firefighters lose faith in the management structure that is in place to manage the fire.

That occurred in the Kosciuszko National Park and I am aware of evidence that has already been given to you that indicates that many of the volunteers who were there had no faith in the fire management and control of those fires simply because outsiders were brought in to fight the fires who did not understand the environment, the situation, the firefighters, the availability of equipment, the resources and the relationship between the various land management agencies.

Mr MOSSFIELD—I think that we have heard submissions relating to the inefficient use of equipment—that has come through on several occasions, but I think it was Noeline Franklin who suggested that there were inadequate funds for equipping land against fire and that there was a need for better equipment and more funding in that general area to provide machinery and so on. Could you expand on that and where you think the equipment is most required?

Ms Franklin—I do not know whether I actually suggested that we need more equipment as opposed to greater fuel load management. During my childhood the equipment was a set of horseshoes and a box of matches, and as barefooted children we were certainly very actively involved in the constant management of fuel loads. I believe what has happened with the changeover from a prevention to a suppression approach to bushfire is that we have got more big trucks and machinery to cope with suppression because we are trying to outdo the accumulating fuel loads.

I believe if we had had the amount of firefighting capacity in 1939 that we have today it would have been a non-event, particularly if we had the fuel loads that were around in 1939. We would not be here today—we would be off swimming or whatever. I believe from a public land management point of view that if they managed the fuel loads much more closely they could achieve a lot more with the machinery they have, and certainly calling in machinery from the Rural Fire Service or whatever else would be a non-event.

Mr MOSSFIELD—I have just one other question for anyone who wants to answer it, and it relates to grazing in national parks. What are the arguments for and against? Would grazing cause damage if it were allowed in national parks?

Mr Cochran—I am happy to answer it being a former leaseholder, and I probably should declare an interest. The lessees association in the mid-sixties took on a contest with the environmentalists' argument that the catchment of the Kosciuszko National Park and the Snowy Mountains Hydro-Electric Scheme would be detrimentally affected by grazing. The argument was always put that grazing livestock would cause erosion and other damage to the environment, including peat bogs and the like. I think anybody who took a walk through that park now and compared the almost impossible likelihood of livestock causing damage to that extent and the damage which is there now would have to conclude that grazing livestock in the summer time, on the basis of it being limited numbers, would be far more beneficial than the catastrophe that has occurred up there.

As other speakers have mentioned, and I am aware of other evidence being given in other reports that you have, the extent of grazing which occurred in the mountains was not at the alpine level but at the subalpine level and below and the montane level—whereas much of the political debate talks about grazing in the alpine regions. There was very limited grazing in the alpine regions maybe in the twenties and the thirties, but as people became more appreciative of the environment over the years there was no grazing in the alpine areas—in fact there has been none since about 1923 or 1924. As a consequence of that, attitudes have evolved and people have a better understanding of the environmental issues. What occurred was an overreaction so that all of the grazing was excluded from the subalpine and montane levels, and the result of course is there for all to see—the fuel build-ups were enormous. Everybody gave warning of the likelihood of this event occurring. Nobody in the bureaucratic or government levels took notice, and the consequences are that we have the greatest environmental catastrophe in the history of the country.

Ms Carnell—Can I take us back to the equipment issue just for a moment. I think it is important to remember that, particularly when the fire was burning in Victoria, you saw a large number of people driving the dozers, often on quite significant inclines and in fairly dangerous conditions. Jill had has already mentioned that they were people who were working in the forest industries or people who could do that because they do it everyday—that is what they do for a living. Except of course those same people are not working in the forest industry any more; they have been made redundant, they are no longer contractors, their bulldozers and equipment are no longer available because those forests have been moved into national parks. They are no longer involved in harvesting timber. So if that same fire went through again today, there would be half the number of bulldozers available to fight them and we would see significantly more destruction.

It is also important to remember that the Auditor-General in Victoria, who looked at this whole issue, was quite critical of the fact that there was no committed budget in Victoria for this sort of equipment. Certainly if governments are going to continue to reduce the forest industries, they are going to have to spend significantly more money on equipment and people.

Mrs GASH—Jill, I want to say thank you for looking after our troops from Wandandian, first and foremost. Secondly, I have a question for Kate: have you floated your idea about partnerships and taking the fuel from the forests with the industry and, if so, what was the result?

Ms Carnell—The industry is very positive about the idea generally. I think everyone is accepting that properly managing the quite significant amounts of forest and national parks that we have currently got is an extraordinarily expensive thing to do, so the industry is very interested in becoming part of an approach that could do it more cost effectively. The approach of stewardship contracts, which could be given to local businesses, not-for-profit groups or whatever, certainly means that those people would become players in the firewood industry generally. That means there would be more businesses in that arena, but we do not believe that that is a negative at all. We believe that would possibly take pressure off some trees on farms at the moment and would actually value add to the industry generally. So there is no negativity at all. We believe strongly that our future in the timber industry, in the forest industry generally, is based upon us coming to grips with the problem of fire, and this is a way to do it cost effectively. We thought that maybe one of the ways it could be done is for ‘Forestcare’ to become the new tranche of NHT.

Mrs GASH—Noeline, in your brief to us earlier you stated that you were intimidated in your efforts. Could you expand on that a bit?

Ms Franklin—Basically, a father and brother have tried to prescribe burn our own bush runs, and helicopters dropped out of the sky and dialogue pursued. Certainly, as the bushfire season extends, it makes it extremely difficult for us as mountain people to get an appropriate burn. Quite often, you may get a dry autumn, in which case you can burn effectively outside the season. Then you are in a situation where you are coerced or whatever into burning more country than you would otherwise in one heap.

In the old days, if I may go back there, we were burning constantly, even through the summer. It may have been just a head of a tree or a few dry tussocks in the creek. The amount of actual burn would have been, in most cases, hardly the size of this room. Because you were constantly attending to fuel loads and plant residues, it would be a superficial singe and small biota on the forest floor. It would be considered a ripple, as opposed to today where we are talking about regeneration recovery. In the old days, there was never any need.

Mrs GASH—My last questions are to Peter, and I thank you for your directness and certainly acknowledge your expertise. It is a very quick question and it is a concern in the Shoalhaven, I can assure you. Should the RFS go back to local governments?

Mr Cochran—There should be tighter local control in the Rural Fire Service and authority and autonomy given back to the bushfire brigades and their district committees.

Mrs GASH—What role do you see for federal government in this whole exercise?

Mr Cochran—I just come back to the politicisation of this issue again. The fact that the states are not contributing to this inquiry is of extraordinary concern to the average firefighter. This is the first opportunity for bushfire brigades to raise the anguish which has been residual there for some time and has not been exposed. The federal government took leadership in the gun debate—much of which I disagreed with—and I have to say that this is another occasion where the federal government has to take the lead and put in place mechanisms which will ensure that this sort of catastrophe does not happen again.

But, most of all, people need to listen to what the locals and the people who live so intimately with the environment have to say, because that is not happening. Some of these people who live in the mountains—the Franklins, the Cochrans and others have lived in the mountains for 160-odd years—basically are Aboriginal. We have a spiritual connection with the land and we understand it and we can give advice. We do not want political interference; what we want to do is give good, sound advice to the management of the land we love.

Ms ELLIS—Noeline, when you said helicopters dropped from the sky, who were they?

Ms Franklin—Mostly ACT bushfire.

Ms ELLIS—ACT bushfire?

Ms Franklin—Yes.

Ms ELLIS—Where is your property?

Ms Franklin—In New South Wales.

Ms ELLIS—And when did this happen?

Ms Franklin—It has basically happened over a period since the 1960s through to probably a few years ago.

Ms ELLIS—So it happened continually?

Ms Franklin—Absolutely.

Ms ELLIS—Was it every month, every year?

Ms Franklin—As we have tried to wind our prescribed burning back to outside the fire season, our local bushfire captain has received telephone calls: 'Is there any smoke out there? Who's doing it? What's going on?' That is even when it has been outside the fire season. My husband was actually spreading lime one day during the summer. We are right under the Canberra-Melbourne flight path and he was reported: 'Where's the fire?' and everybody was running around wondering where the fire was.

Ms ELLIS—I guess if it wasn't lime and it was fire it would be a reasonable question.

Ms Franklin—I guess so but being due west of Canberra we have been under considerable focus.

Ms ELLIS—I want to ask this question because I do not know the answer. I am not questioning your land management abilities; you obviously have enormous expertise. Are there, or have there been in the past, requirements for permits to burn off?

Ms Franklin—Yes.

Ms ELLIS—What is the regime that needs to be undertaken?

Ms Franklin—There has been a succession of regimes, I suppose. Firstly, there is still the local fire captain—that is actually happening if the burn-off was in midsummer. Then we went to permits during the fire season. Now we have concern, even outside the fire season, so it has basically degenerated. Now we have a situation where we have environmental impact statements if we need to do any burning on our own land. Certainly, as a community surrounded by national park, it is pretty heroic stuff for local fire brigades to put in strategic burns.

Ms ELLIS—Could you clarify a few points that you made earlier on. If you cannot give me the information today, you can take it on notice and hand it to the committee at a later date. You made a statement that there were some coroner's reports that were now secret to the public. Are you in a position to say when and what those coronial reports were that are now secret to the public as you have said?

Ms Franklin—I have been working with some people on these issues in Victoria and I believe that some of those coroner's reports are now closed to the public.

Ms ELLIS—For this committee to take that as evidence, we would need to source what we are actually talking about. So, if you are in a position at a later date to be a little bit more informed then that might help, otherwise it is a little bit in the ether. Another thing that you mentioned I am extremely alarmed about because I have seen, I can assure you, from very early days the devastation of the fire in the ACT, specifically in the outer areas of the ACT, and the absolute volcanic appearance within some of the forest area. You have made the statement that there have been comparisons in the power fuel load of that fire to Hiroshima. Can you source for me where those comparisons came from?

Ms Franklin—Yes.

Ms ELLIS—Who made them? And again if you cannot give it to me now, you can send it to us later.

Ms Franklin—I actually have the reference here by coincidence.

Ms ELLIS—That is fine. It is a good coincidence.

Ms Franklin—It is the *Bush Telegraph* magazine, State Forests of New South Wales, winter 2003 edition.

Ms ELLIS—I might ask if the committee could get a reference from that report before you go as to who made the statement. Could you clarify a third thing for me because I did not quite hear what you were saying. Towards the end of your presentation you mentioned the Commonwealth biodiversity act and something you wanted to have happen to trigger something against that act. Can you please elaborate for me what you referred to and meant because I did not hear it all.

Ms Franklin—I could be led through the process a little bit more but, as I understand, the Environment Protection and Biodiversity Conservation Act 1999 has a segment in it where people can nominate key threatening processes. I would like large area severe fire to be nominated as one of the most significant key threatening processes.

Ms ELLIS—Within the act?

Ms Franklin—Yes, within the act.

Ms ELLIS—We might look further at that and see what the act actually says because I am not aware of content of the act in detail.

Mr Cochran—To clarify that there are a list of key threatening processes and fire is not included is what Ms Franklin is saying.

Ms ELLIS—I understand. Thank you.

CHAIR—I want to go back to the issue of grazing in some of the high country. The CSIRO, which we will hear from this afternoon, have in fact argued the case that grazing effectively does not make any difference. They say:

Our preliminary data from burnt sites on the Bogong High Plains do not support the notion that alpine grazing reduces blazing. Our observations and measurements in February/March 2003 show that the pattern of burnt heath abutting unburnt grassland appears to be just as common in ungrazed country ... as in grazed country ...

Peter—and perhaps Noeline—would you like to comment on that assertion?

Mr Cochran—I think that any person considering this issue, including this committee, should make reference to the writings of Oliver Moriarty. I understand that the volumes he has produced were made available to the committee at the Cooma hearing. There is no question that Oliver Moriarty, prior to these major fires, undertook the most comprehensive report on grazing in the Kosciuszko National Park that has ever been presented. It is essential reading for anybody who considers this issue of grazing in national parks, particularly the Kosciuszko National Park, to which he made particular reference in his studies. In these recent fires the only area that was not burnt to any extent was the area where the brumbies run in the northern end of the Kosciuszko National Park. The fact that brumbies graze the areas up there unquestionably prevented the area from being burnt out. I ride through that area three to five days a week and I understand the place like the back of my hand. I can tell you that the only reason it was not burnt was that it is grazed. It is the passive way of reducing fuel in conjunction with other methods of fuel reduction that have been mentioned, such as burning and so forth.

Grazing is the passive way to reduce fuel, the natural way to reduce fuel, and was very successfully undertaken for over 100 years in the Kosciuszko National Park in those subalpine areas. By way of comparison, in Engelberg in Switzerland the cows graze at 9,000 feet. They wander around the sides of the hills up there in the middle of the night, as I found one night wandering my way back down the hill when I was confronted by a cow with a bell on at 9,000 feet. I could not believe that we do not graze cattle to 4,500 feet in this country, yet in Engelberg in Switzerland, where there is a very sensitive environment, they graze cows up to 9,000 feet. I draw the comparison between attitudes in European environmental management and that in Australia where extremes have control.

Mr BARTLETT—Ms Carnell or Mr Townsend, in the NAFI submission at recommendation 8 you talk about the need for a single authority to have control of fire management and that land managers and so on should be responsible to them. Would it be consistent with that to say that the organisation with ultimate authority should be the RFS and that the National Parks and Wildlife Service should be accountable to the RFS in terms of fire management issues?

Ms Carnell—Yes, we believe so.

Mr Townsend—We meant to bring along today a copy of a report on what was called the Hume-Snowy Bushfire Prevention Scheme. Just exactly as you mention was how it ran up until 1988 and the Kosciuszko National Park was adequately protected with extensive areas of fire trails and proper management approaches across the landscape. Since then we have had 15 years of fuel build-up, trails grown over and the major outcome of the fires that have occurred during 2003. We will get a copy of the report to you so that you can see what actually happens when

you have a concentrated effort. It became politicised again because the New South Wales state forest guys had the controlling influence over what was happening in the bushfire prevention scheme and the National Parks and Wildlife people took it away.

Mr BARTLETT—So the logical thing would be that the RFS or its equivalent in other states have ultimate management responsibility and authority?

Ms Carnell—Yes.

Mr Townsend—That has actually lead to rapid fire suppression from the lightning strikes, because on private land or in state forest areas they could get in and fight the fires without having to go through a whole chain of command to get a response.

Ms Carnell—They put their fires out and Kosciuszko burnt.

CHAIR—I am afraid we have run out of time. I am sure that we could continue for quite some time. Thank you for your very comprehensive submissions and the evidence you have given us today, all of which will be very useful in the committee's work over the coming months.

[11.55 a.m.]

WEST, Mr Wayne Karl (Private capacity)

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Mr West—I am a landowner in the Brindabellas.

CHAIR—I think you were here earlier when I read the formal part of the proceedings with respect to evidence et cetera, so I will not repeat that. We have your submission and we thank you for it. I understand that you have come back from being interstate to appear before the committee, which we are very grateful for. Your submission is all on the public record and forms part of the evidence for this inquiry. Would you like to make some brief opening comments before we move to questions?

Mr West—You will notice some bitterness in my words today. For me to read and hear various statements made by the New South Wales Rural Fire Service and National Parks that are misleading and verging on lying is hard to understand. Why not tell the truth? We must learn from our mistakes and errors, and progress forward and prevent another disaster of this size—505 homes and four lives lost. My wife and I own 960 acres up in the Brindabellas at Sandy Flat, just south of the lightning strike now known as the McIntyre's Hut fire. Our eastern neighbour is Brindabella National Park, and we are separated by the Goodradigbee River. I presume that everyone here would know the area that I am talking about and the location of the lightning strike of 8 January, known as the McIntyre fire. We are located just a little bit south of there.

On that day we received a phone call from our neighbour advising us that there was a fire across the river from our place. Mr Don Stuart was possibly the first person to see the fire. He was returning our haymaking equipment to us, and it was while he was on our place that he saw the helicopter fly over and report the fire back to Canberra. My interest in this inquiry is that the actions that were taken by the Rural Fire Service and the National Parks in the very early stages leave a lot to be desired. On Wednesday I rang the Rural Fire Service—the times of that are in my submission—and spoke to them about the fire. The impression that I received from the control centre was that there was just a fire up there of no significance. I decided in the evening to go up. My wife said, 'You won't sleep tonight if you don't go up.'

When I left Canberra at about 9.30—the times are in the submission—I noticed what looked liked fires to the west of Canberra in the area of Dingi-Dingi. I stopped at Huntley and made a phone call to fire control and spoke to Mr Neil Donohue, who said to me, 'We have a unit on patrol and the fire has travelled seven kilometres.' If my memory serves me correctly that was possibly around 9.30. I asked the question, 'Was there only one unit on patrol? What were they doing?' The answer was, 'Yes.' Fire control closed down that night. The fire controller went home to bed. The office closed for the night. Didn't we have a bushfire on our hands, or do fires burn only within business hours? Why was the Brindabella brigade told not to attend the fire? 'Go home,' came the command, or words to that effect. No immediate adjoining landowners on the western side of the fire were notified by National Parks or the Rural Fire Service. The fire

was allowed to wander along on its own merry way for the first 63 hours, with no men, equipment or any effort to contain the fire on the north, west, or southern fronts on the western side of the Webbs Spur Range.

My comments today—I should have introduced this earlier—are solely in respect of the fire that related to McIntyre's Hut and the area that is on the borders between the Goodradigbee River and Webbs Spur Range. It must be noted that the fire on the western front burnt very slowly. I believe you may have evidence before you now that will confirm what I saw. The distance from the ignition point to where the fire crossed the river on 17 January was approximately one kilometre. At this point no effort was made to put in any containment lines, and the sole firefighting effort for the entire period was dependent upon helicopters. But, as everyone knows, water bombing will not put out bushfires burning in forest; it only slows their progress. They may say that they put firebreaks in on the western front, but that was only for a very short distance. The majority was left unprotected. I believe the river was thought of as a containment line. Having numerous trees across it and blackberry infested riverbanks in some areas spanning less than two metres apart, it made an ineffective containment line. Had greater emphasis been made to fight the fire immediately after ignition and not allowed to be left to burn of its own free will, the disaster which occurred on 18 January could have been prevented. There is evidence on the ground that the path of the fire may have travelled through our property on Saturday, the 18th, and then into Canberra.

The next question I want to raise is: did the Brindabella Ranges ever pose a bushfire hazard risk to the ACT? The answer to this is yes. It was recognised years ago, when the ACT and the New South Wales governments entered into an agreement which established a lease over land now known as the Brindabella National Park for the purpose of bushfire management and prevention. In 1996, when the lease was terminated, the Brindabella National Park was established. What regard did National Parks give to the already known potential danger of bushfires to the ACT? After six years, the National Parks and Wildlife Service still have not established a bushfire management plan, only a working draft for the Brindabella National Park. When I requested the information, I was told that this is not available for public comment, as was confirmed in their letter dated 2 May 2003 and signed by Dr Tony Fleming.

The Yarrowlumla bushfire management plan, which is now in action, states at item No. 531.1(b) that the National Parks have put on exhibition a bushfire management plan. That was the reason I asked for a copy of that, and I got a response from Dr Tony Fleming saying that that document was incorrect, although I have been assured by the Queanbeyan Rural Fire Service that National Parks have signed off on the document. They were party to the document but either that document has been deliberately misleading or National Parks have tried to falsify what they have or have not done in their commitment to a fire management plan.

While we are on the National Parks I would like to ask Dr Tony Fleming, director for southern New South Wales, to expand on his comments in the *Canberra Times* on 4 April that there was no evidence to support the claims made so far and that there was 'a huge insult to our staff'. He said that the staff were on the fire front within two hours of ignition. Dr Fleming, why not tell the truth? Who were they—firefighters or rangers? How many? Give us their names. Were they there to observe and report? Did they have any firefighting equipment with them? Was it a couple of rangers with a 400-litre slip-on firefighting unit on the back of a four-wheel drive or was it a fully equipped fire truck? Where were they?

As the fire started on the far western side of the park near the Goodradigbee River, the spotting helicopter reported the fire several hundred metres above Blackfellows Flat on the eastern side of the river. This location was conveyed to me by the New South Wales Police. Did they attend the ignition point of the fire? If so, how did they get there? The quickest way to access the fire would have been to contact neighbouring property owners and/or the Brindabella bushfire brigade. Dr Fleming also said on 4 April that it was already too big and unsafe for crews to launch a direct attack. In the same article, the authorities also claimed firefighters and other staff were battling the fires within two hours of ignition. Which one of these two contradicting statements is correct? This again highlights the inability of the authorities to get their facts straight.

On 8 January there was a prime example of fire management policy by two New South Wales government bodies, being National Parks and State Forests, with conflicting results. Tumut forestry had 12 lightning strikes and one of these was directly to our west. Mr Don Hobson, the Tumut forestry officer in charge, has informed me that they contained 11 of the 12 fires within 48 hours and only one fire was not contained. These fires caused no property loss, no loss of homes or lives. On the other hand, National Parks failed to contain or control any of their fires within 48 hours. We all know the damage caused by the McIntyre's Hut fire. The management policy of State Forests is working, whereas we hear every year at least once, if not on numerous occasions, of major bushfires in national parks causing grief and loss of property. When will National Parks wake up and realise their management policies are not working?

I will finish on this point, because the other speakers have expressed my concerns about the fact that the national parks are set aside to preserve bush and its inhabitants—flora and fauna—and should be managed to achieve this. These parks need to be managed knowing that bushfires are here to stay. Nature has fires, through lightning strikes, which burn the bush and control fuel loads. Humans intervene in this process by putting these fires out, in turn allowing fuel loads to build up. One way to control fuel loads is to have fire hazard reduction burns to control fuel level at the desirable load. The current fire management plan for the Kosciuszko National Park does not mention any desirable fuel loads or set out the guidelines as to when hazard reduction burns will be done. A lot of fancy words with no substance or body—for example, the northern end of the Kosciuszko National Park at Brindabella has not received a hazard reduction burn since inception, although there is a high fire danger potential to the numerous residents and farmers in the area.

CHAIR—Thank you very much for that further contribution.

Ms ELLIS—Thank you, Wayne, for giving evidence. It is obviously very difficult for people post-fire to talk about it, and I appreciate very much the fact that you have done so. I also want to thank you very sincerely for your detailed submission. You were obviously in a fairly unique position, given your situation at the time and your geographic location. You live at the property up in—

Mr West—I also live in Canberra. I have a residence in Kaleen.

Ms ELLIS—Have you provided a submission or been asked to provide a submission to the ACT coronial inquiry?

Mr West—Yes.

Ms ELLIS—That is good. Is this the same submission?

Mr West—Yes.

Ms PANOPOULOS—Thank you, Mr West, for coming here and for persevering with numerous submissions and government inquiries. I know that it is difficult, and I would not blame you or anyone else for being cynical at times about the usefulness of all sorts of inquiries. I assure you that all the members on this committee are determined that people like you will have an opportunity to speak and that your experiences and your knowledge will find their way eventually down the path, hopefully, to some changed practices and policies. That is our objective. You spoke about the fact that, in the first 63 hours of the McIntyre's Hut fire, there was no attempt to contain it.

Mr West—On the western side; I was at the tower and the ignition point was quite visible from my property. We were about three kilometres from the ignition point. My neighbour Katja Mikhailovich is in the public gallery today. Her house is about two kilometres away from the ignition point. From our place we could quite clearly see the ignition point. Another neighbour saw the fire start, and his daughter said, 'Daddy, a house.' That is how small the fire was when he first noticed it. From our side, there were no fire vehicles and no personnel—whether on foot or in a helicopter—who attended the fire at the ignition point. Throughout the fire until after 18 January, when the fire investigation started, my knowledge tells me—and from what I saw happen over the 10 days—no firefighters ever went to the source of the fire, the ignition point. I asked that question of Dr Fleming today. We have read in the paper and we have had people come from the Rural Fire Service making statements, but none of them have put up any evidence to prove that they were there at the source of the fire.

Ms PANOPOULOS—Prior to today, have you made any attempts to get that information from the relevant individuals and the relevant authorities?

Mr West—Yes. I started immediately on Tuesday, 21 January seeking information with regard to the fire. At 7.43 a.m. I rang Mr John Winter, who is in the public gallery today. He told me he was a media officer from Corporate Affairs, Rosehill. I asked John if the calls were taped. John said that all calls to the fire control centre were taped. My response was, 'You bastards will hang on your own evidence.' I now ask this inquiry—and I have asked in my submission—that these tapes be produced. I have asked the coronial inquiry to produce the same tapes. I made calls to the fire control centre on the first night of the fire, the eighth, and I made 12 phone calls in the first 36 hours, screaming and asking for help. I got the fire controller out of bed on Wednesday night or Thursday morning. The fire control centre had closed down; they had all gone home. I got him out of bed and I said, 'Mate, we need some men here tomorrow.' I rang him again the next day. Then I read in the paper, 'We had firefighters at the fire within hours.'

Ms PANOPOULOS—How do you feel about the fact that your repeated desperate requests fell on deaf ears?

Mr West—That was the reason I came out publicly immediately after the fire. I was not aware of what would happen with respect to inquiries. The McIntyre's Hut fire was horrific and was

caused solely by inadequacy and poor management. I am not pointing the finger at National Parks or at Rural Fire Service. My contact at all times was with Rural Fire Service, and I was never told by Rural Fire Service to contact National Parks. Therefore my submission really relates to the Rural Fire Service, because that is where I made my contacts. That is who I believed, throughout the fire, was controlling the fire. I never rang National Parks. I had no reason to ring National Parks. National Parks rang me on only one occasion, and it was the only outside call I received throughout the fire.

We had no communications. The Rural Fire Service did not come and see us. They did not send men up to our place to ask us whether we needed assistance or to disagree with my comments that I made to them on the phone. There was no contact from Rural Fire Service to us; it was just one-way traffic. On the only day that we did actually speak to a Rural Fire Service officer, he asked whether we needed any help. That was on Sunday, when we started pumping water out of our dam—the helicopters started to take water out of our dam and put it on the fire in the national park. A gentleman, who hopped out of the helicopter and was marked with a logo with Rural Fire Service, New South Wales on it, asked us whether we needed any help. The officer spoke to my neighbour Mr David Menzel. I returned and David told me to speak to the officer. The Rural Fire Service asked whether we needed anything. I said, 'Yes, a four-inch pump and 130 metres of hose to reach the dam.'

In my absence David had also asked the same officer for a two-inch pump. We pumped water Sunday night. We borrowed a pump from the Brindabella Fire Brigade, which we returned on Monday morning. We worked all night. They had no fuel for us; we had to supply our own fuel. We never heard from that officer nor received any firefighting equipment or any assistance at all at any time. Even on the night of 17 January, when the fire crossed the Goodradigbee River to the western side, we rang fire control and asked for assistance and we were told to ring Triple 0. That was the 24th phone call.

Ms PANOPOULOS—Thank you for your patience and perseverance.

Mr MOSSFIELD—There may be a little repetitive questioning here, but there are some issues I would like to get out. You said in your submission that you were one of the very few people in the vicinity of the McIntyre fire on the night it started?

Mr West—Yes.

Mr MOSSFIELD—Do you believe that the fire could have been put out at that point?

Mr West—The fire on Wednesday night-early Thursday morning died. It flared up again at around 12 o'clock, when we got a gust of wind. The fire then died during the early hours. On Thursday, Friday and Saturday the fire burned at a very slow rate. On Thursday morning I went over to the ignition point of the fire. I did not know at the time where the fire actually started but, since then, we had been to the location of the fire and found the tree that had been hit by lightning.

On Thursday morning I was within 150 to 200 metres of the ignition point of the fire. On Thursday afternoon we went back to the site of the fire, which still had not shifted at all. My neighbour, my daughter's partner and I went to the fire again on Friday. The fire, in relation to

the ignition point, had crept only slowly down the hill and may have crept a distance as little as 400 metres in that time. The fire did not flare at all on Thursday, and throughout the day the fire was a cold burn with very little smoke. The photos I have of some smoke from the fire indicate that it was a cold burn. The evidence on the ground when you go back over there and see where the fire burnt for the first four, five, six, seven or eight days indicates that they were all slow burns.

In the adjacent area to the ignition point there was evidence of the fire where it ripped up the ridge face to Webbs Spur on Wednesday afternoon, and there were another four small locations where the fire ripped up some ridges in strips when the wind blew up. Those winds blew up for five or 10 minutes and mostly in the afternoon. Just after dark the wind blew up and the flame at that stage grew, whereas during the day time the flame was very small. In actual fact, Fred Baker and I were looking at the fire one night during that period and we found evidence of where the fire had burnt half the bark, left the other half unburnt and then gone out. So there was no evidence from my observations to show that the fire travelled at any speed at all for nine days. From the 8th to the afternoon of the 17th, when the fire jumped the river, we are talking about a distance from the ignition point to the river of one kilometre. We are not talking about 30 kilometres, which it was from Canberra. So the fire in our area was not an active fire. It was a very slow cold fire.

Mr MOSSFIELD—Are you saying that it was not a serious fire at that early stage?

Mr West—It only became serious on 17 January.

Mr MOSSFIELD—You did say that the National Parks and Wildlife Service said that the fire was not of any significance early on, so would there perhaps be some justification for making—

Mr West—No, I did not say that. I did not say that the National Parks said anything like that. Do you mean the article in the *Canberra Times*?

Mr MOSSFIELD—I just made a note of what your comments were. I thought you said that the National Parks and Wildlife Service made that statement.

Mr West—No, I had not spoken to National Parks. I commented on the article in the *Canberra Times*.

Mr MOSSFIELD—So it was the article in the paper?

Mr West—Yes.

Mr MOSSFIELD—I have one final question with regard to your submission. You said:

The fire should not be explained by referring to ‘exceptional climatic conditions’.

Are you suggesting that we do not take into consideration the climatic conditions that existed on that occasion?

Mr West—No. I am taking the articles and comments that were made to the press that blame the fire on the climatic conditions.

Mr MOSSFIELD—What part did the climatic conditions play in the fire?

Mr West—The part the climatic conditions played in that fire was that it was all to the advantage of the firefighters that the conditions we had in the first four, five or six days were exceptionally unusual. We had no high winds, we had no dominant wind from the west and basically we had southerly orientated winds which fanned the fire away from Canberra. The day temperatures were not high. We did not have low levels of humidity.

Mr MOSSFIELD—But we did have a drought.

Mr West—For us, we did not have a drought. We were not feeding our stock at that point at that location, and my neighbours were not feeding their stock. We actually were not drought declared; we were only drought declared after the fire. In the McIntyre's area, in the immediate vicinity of the fire, we did not have a drought.

Mrs GASH—Mr Chair, I have a question for you. As Mr John Winter, the media officer of the RFS, is present in the gallery, can he take some questions from us?

CHAIR—No, that is not possible. As a committee we asked the New South Wales government whether officers could be made available for the committee, but that request has been declined. Matters to do with subpoenaing people are matters that the committee should deal with outside the public hearing, I think.

Mrs GASH—Thank you. Mr West, thank you for being here. I know it is very difficult. Is Mrs West here today as well?

Mr West—Yes.

Mrs GASH—Thank you for being here as well, Mrs West. Mr West, do you feel in hindsight—and it is always easy in hindsight—that your fire could have been prevented?

Mr West—No doubt. It could not have been prevented at the point of ignition—the ignition point was lightning—but, after that, yes, the fire could have been contained.

Mrs GASH—I have read your submission and I have heard your evidence here, but I would like to clarify once again: why do you feel you had this difficulty getting the support you needed at the time you needed it?

Mr West—I would love to know. I cannot answer that question. I have no idea.

Mrs GASH—You still have not got the answers that you are looking for?

Mr West—Since the fire, we even had trouble trying to get a copy of the Yarrowlumla-Queanbeyan bushfire management committee bushfire risk management plan. We could not get it. It got so bad that we supplied our own fuel to the fire. I had a friend of mine bring the fuel out

from Canberra, and we used 100 litres of fuel. I was told that we could be reimbursed. I rang up the Yarrowlumla Shire and the lady there, Jenny, said to me: 'You've got to get bushfire control authority for the payment.' I then rang up Mr Bruce Arthur, the bushfire controller, and asked him about reimbursement of $100 for the fuel. He said, 'No, we can't reimburse you. You pumped the water on your land.' I said, 'Yes, but I didn't use the water. The water was used for your helicopters.' 'No,' he said, 'we won't reimburse you'. We then made a submission to Katrina Hodgkinson, the member for Burrinjuck, and wrote her a letter thanking her. We have now received a letter back from the Minister for Emergency Services agreeing to the Rural Fire Service paying for our costs incurred.

CHAIR—When did you receive that response?

Mr West—The letter was sent to us on 30 June, while we were away.

Mrs GASH—Can I finish, Mr Chair, by putting it on the public inquiry record that I will be going through the process of subpoenaing Mr John Winter.

CHAIR—As I said, the legalities and procedures around that matter should be discussed outside the public hearing. Mr West, I think you said you have had your property about 18 years. During that period of time you have experienced the land around you being managed first of all as part of a lease to the ACT government—looked after by the ACT Bushfire Council, as it was—and more recently the land becoming Brindabella National Park, run by the New South Wales National Parks and Wildlife Service. What changes have you observed in the day-to-day management of that land between the two regimes?

Mr West—Honestly, not much has changed for us. One major difference is that we used to put up signs saying there were total fire bans. I contacted the National Parks in December last year and asked why we did not have signs up advising the public that there were total fire bans on. Rob Hunt, the ranger, said that it was because there were insufficient staff to put the signs up. I do not know whether the management changing may have been a significant thing in some ways. However, the management of forestry is definitely looked at in a different light to the management of national parks. I raised that as one reason why the Tumut area had 12 fires and they could do something about their fires, but National Parks did nothing.

CHAIR—Was there a regime of hazard reduction in the region prior to 1996?

Mr West—No, because that was controlled by the ACT not New South Wales.

CHAIR—I appreciate that, but can you recall the ACT authorities carrying out any hazard reduction in that region?

Mr West—There was hazard reduction early in the piece.

CHAIR—When you say 'early in the piece', do you mean when you first bought your property?

Mr West—Some fire hazard reduction was done prior to 1996. There are people here today who can answer that question far better than I can. I think the fire captain or Noeline Franklin could give us the relevant answer regarding the extent of the hazard reduction in that area.

CHAIR—But to your knowledge there has not been any hazard reduction done since 1996—is that what you are saying?

Mr West—There has been none at all.

CHAIR—Thank you for your time this morning and for the very detailed submission. As I think Annette Ellis said first up, it was very comprehensive. Getting specific, day by day information is very useful for the committee, allowing us to understand just what occurred in that particular fire. It will be very useful for us in our deliberations through the remainder of the inquiry. Thank you again for your time and for coming back from interstate to appear at this hearing. We are very grateful for it.

Proceedings suspended from 12.33 p.m. to 1.33 p.m.

TAYLOR, Professor Ken (Private capacity)

CHAIR—Welcome. Is there anything you want to add about the capacity in which you appear here today?

Prof. Taylor—I am a visiting fellow, Humanities Research Centre, Australian National University.

CHAIR—Although the committee does not require you to give evidence under oath, I advise you that these hearings are formal proceedings of the parliament and consequently they warrant the same respect as proceedings of the House itself. I remind witnesses that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. We have your submission and we thank you for it. It is on the public record and will form part of the evidence for the committee to use in its deliberations. Would you like to make a brief opening statement before I give the committee members an opportunity to ask you questions?

Prof. Taylor—Yes. Rather than reiterate what I have written, I put the point of view forward that we need to understand what has happened in the landscape over time, that the landscape has changed. As a landscape historian, someone who reads the landscape, I think it is important to note that the conclusions that one comes to may differ from other people's and may be contentious. I happen to believe that fire has been a way of controlling the landscape before Europeans arrived and I think the records of what the landscape looked like when Europeans arrived, both from diaries and sketches, indicate this to be so.

I would add one thing that a colleague brought to my attention. The argument that fire can do as much damage as anything else depends on the type of fire and the ferocity of the fire. It would appear, from what we can understand, that Aboriginal people understood how to use low-intensity fires and created a landscape which did have diversity in it. I know that it is suggested that it will debilitate the forest and kill off old-growth material. It is interesting looking at remnant vegetation. One of the things that we can find—and I could take you to Mount Ainslie to see these things there—is that a lot of trees are fairly small, straight trunked and narrow. They have regenerated after either felling or inappropriate burning. Occasionally, and this is the same up in parts of the Brindabellas, you will find large spreading trees. These are older trees which survived pre-European burning, and you have to ask yourself how these trees developed with spreading crowns. We assume that they developed in open grassy woodland, which is the woodland consistently described by Europeans when they arrived, including that in the snow gum area. It is also true to say that there are parts up in the hills that were not wooded when Europeans arrived and are now wooded.

I may also add that a colleague has drawn to my attention the use of fossil pollen. It would be interesting to do some experiments in the urban open space areas of Canberra—Black Mountain and others—to look at pre-European vegetation patterns from pollen analysis. One site in Sydney at Saint Barnabas' Church on Broadway indicates, from pre-European soils, that it was an open grassy woodland and then within 30 years of European occupation it was dense brush. Landscape has changed, and I think it is important that we try to understand this in a multidisciplinary, multiprofessional approach to managing the areas on the outskirts of our cities.

CHAIR—Thank you for that introduction. Professor Taylor, perhaps you could tell the committee what your scientific background is. I know that you are codirector of the Cultural Heritage and Research Centre at the University of Canberra.

Prof. Taylor—I have retired from that position. I am still a member of that research centre as an emeritus professor. I am not a scientist. I have a degree in geography, in town planning, in landscape architecture and then in heritage.

CHAIR—I call that a practical scientist.

Prof. Taylor—I think of an artist who uses science.

CHAIR—You said that you will get conflicting views about the treatment of fire and its effect on the landscape. Are there any conflicting views about what our landscape was in pre-European times? What is the evidence about the landscapes that you are familiar with?

Prof. Taylor—The evidence is in writing—in settlers' diaries and comments—and, whether it is in south-east Australia or Western Australia, there is a constant reference to native fires. Some of these were probably deliberately lit but they could not all have been deliberately lit. They were not all lightning strikes. There is reference to Aboriginal people using fire to control the landscape.

One of the most remarkable records we have is the Joseph Lycett album, which is in the National Library; you can get facsimile copies of it. Lycett was the convict artist and his favourite things were picturesque landscapes, but in this album he looked at Aboriginal people in the landscape and two or three pictures show Aboriginal people burning the landscape and hunting in it. The conclusion is that it was for feed, to promote grass and to keep the shrubbery down. We know that it was open grassy woodland. There are always constant descriptions of that throughout south-east Australia. The shrub layer was not absent but it was kept under control. There are paintings by people like S.T. Gill, particularly his *Mob of Cattle in the Bush*, which may be of South Australia but it is a remarkable record. It is almost as though someone had taken a photograph. It is a fairly early picture—it is in the 1830s—as Europeans moved through. It shows the archetypal picturesque landscape with open grassy areas and trees. There is virtually no underlayer of shrubs. We have this record. It leads us to believe that the sorts of woodlands and forests that we have now, which have a build-up of undergrowth and so on, were certainly not as widespread in the early 1900s, when Europeans arrived, or the late 18th century. We can only assume that the mosaic of burning which we know took place was a method of controlling the landscape. I would refer to it as an Aboriginal cultural landscape. It was also a result of climatic factors, so it was people and nature working together in harmony.

CHAIR—What, in your view, have been the major changes that have created a lot of the thick undergrowth in the areas that, pre-European, were open areas?

Prof. Taylor—Evidence suggests that, when Europeans arrived, they tried to imitate Aboriginal burning and started to burn off. They did not know what they were doing and, in many cases, set off burns which were far too hot and which damaged the vegetation, and then there was a reaction against that. They might have continued burning—they did continue in some places—but grazing and thinning of the vegetation served their ends. I have no doubt that

the build-up of ground fuel in our urban open spaces in Canberra and the area around is considerably higher than it was at the time of contact.

Ms ELLIS—It is good to see you, Professor Taylor, and thank you for your submission. I want to speak specifically about a paragraph in your submission, if you bear with me while I refer to it. It says:

> There have been reports to various ACT governments (and I presume to the NSW authorities) on the advisability of reducing ground fuel. It appears these have been successively ignored and it would be interesting to know on whose recommendation. I understand that some ten years ago in one such paper it was suggested that there ought to be a 100 metre zone around wooded suburban edges where shrubs and accumulated ground material should be kept removed. Nothing happened.

I would like to take a couple of different points from that, if I may. First of all, are you aware of what the reports have been? Can you source the numbers of reports? Do you have access to them? You refer to a variety of them. Are you able to point us to them?

Prof. Taylor—The one I am referring to was done by two people at the forestry department at the ANU. I think it was an informal report. I do not think it was published, but Dr John Banks, who is still at ANU forestry, and Professor Ross Florence, who has since retired, were involved. The others I refer to are the ones that were referred to in the *Canberra Times* shortly after the bushfire event.

Ms ELLIS—We might ask the secretariat to get us the information about those reports as mentioned. The thing that has become very evident to this committee during this inquiry is the difference in different parts of the country in how urban dwellers manage to put themselves into bush. In Canberra we have the unique situation where a theory like a 100-metre zone around wooded areas is quite possible because we actually have a hard edge between urban and bush Canberra. I would be very interested to know if you have a comment about what you believe the reaction would be to such a proposal.

Conversely—because we are not just looking at Canberra bushfires; we are looking at recent Australian bushfires—in other areas of the country the urban touch on bush is more of a finger development. We have all seen it in the Blue Mountains, in the Dandenongs—you do not have to go very far—and in suburban Sydney, where we have what in my mind is precarious building of beautiful homes at the foot of gullies, surrounded as far as they can see vertically up by shrubs and trees and bush. If this is a good idea, how do we then begin to have a similar attitude in other places? There are not very many places where you have this strict, hard edge that we have here between the urban fringe and the bush side.

Prof. Taylor—That is one of the fortunate things about the national capital open space system of Canberra—that it does have that edge. It actually breaks down slightly in Weston Creek, where you start to get those fingers coming in, and in Kambah.

Ms ELLIS—To a small degree.

Prof. Taylor—It is a matter of somebody grasping the nettle and saying, 'This is the management technique we are going to take,' and of educating the public. I used Aranda because

I live in Aranda, on the edge of Black Mountain, and I have got increasingly concerned about the build-up of fuel there. I know there is an exercise going on now. It will be interesting to see if it is sufficient to diminish the danger. If I may sidetrack, the only thing that saved Aranda on that dreadful night was the fact that there was a fire at the bottom of Caswell Drive 18 months previously which burnt fuel, and a wind shift, and the magnificent efforts of the firefighters, who were all concentrated down there. But a group of us did expect the fire to be there within 15 minutes. In fact, we were told it was going to be. But Dr Cheney from CSIRO tells me personally that what saved Aranda was the lack of fuel at the bottom of the hill and the other things. I think it is a matter of public education. I know that people have complained about smoke in the atmosphere when controlled burning takes place. My reaction to that is, 'Stiff cheese!'

Ms ELLIS—I have to say that I have heard that comment myself, and I tend to hear it a little bit sceptically, given that part of my electorate disappears under smoke from wood fire stoves for home heating every winter.

Prof. Taylor—I think it has been used as a means of not proceeding, quite honestly. There have been some complaints from people in Canberra about burning off and so on when it occurs in the Brindabellas. Now that the public have seen what can happen in unprecedented circumstances, they may be in a frame of mind to accept an approach to managing the urban open space system. The ACT government is looking at this, so let us hope that something sensible can come out of it.

As I walk around Black Mountain, I see that some people have already taken those steps themselves. I think, too, there needs to be an education process with the problem with mulch. I let the mulch accumulate in my garden, and I shall never, ever do that again because it is the ground fuel that causes the major problems in terms of house fires, not the crown fire. I am not a scientist, but that is how I understand it. Certainly the build-up of debris in gardens in suburbs adjoining the bush is very high. I certainly would not subscribe to the campaign of 'Don't grow native vegetation'. It depends what type you grow. Growing smooth-trunked eucalypts in a suburb like Aranda is not only appropriate; there is nothing wrong with that. We need a balanced approach so as not to scare people off and not to have just a concrete jungle. That is the last thing we want.

Ms ELLIS—It is fair to say that within Canberra in the days and weeks following 18 January there was the most massive garden clearance. It could be seen flippantly but it was also seen seriously, because people, no matter where they were in relation to bush or other environment, took to the garden and anything above six feet with gusto. To a degree that was out of sheer fear and the lack of understanding of what you can really grow and plant and where. I think there was a tiny bit of panic associated with it and very much understood as that. I am not critical of it; I understand it. I think the green fill at the tip became full very quickly.

Prof. Taylor—And we are all buying it back as mulch and various other things now.

Ms ELLIS—Exactly.

Mr BARTLETT—From your understanding of vegetation patterns and changes thereto over the past 200 years, which do you think is worse for natural vegetation: low intensity, high frequency fires or high intensity, low frequency fires?

Prof. Taylor—I really do not know enough scientifically about it. I think that is a question better answered by people from the CSIRO. I have a view but I think it is better for those people who have studied it. If I were to try to understand how Aboriginal people did it, it is low intensity over a mosaic pattern where you leave different areas of vegetation. That is extraordinarily difficult in some of the national park areas. Therefore I suggest that what we need to look at is zones adjacent to and just inside national parks. They are a multifunctional thing in the landscape, not just nature conservation but water gathering grounds, and we are seeing the consequences of that now. I think I would rather answer it that way.

Mr BARTLETT—Sure. On the first page of your submission you suggest a sensible program of controlled burning. Could you elaborate on that?

Prof. Taylor—The urban areas apart—Ms Ellis has just referred to that and that needs attention—but in the outer areas there is zoning and different intensities. But if that is to happen then the national parks have to be funded properly. I support as much national park as possible. I think it is important for the nation. But if we do that then you have to make available the money to look after it, and the national parks are starved of funding.

Mr BARTLETT—You say in your report that drought and heat were the last straw for a landscape waiting to burn, that obviously the fuel was one issue and the weather conditions at the time were another issue. You may be able to answer this for me. In another submission from the ACT Emergency Services Bureau, their response to the operational response inquiry, they say that the tornado that occurred at the time was particularly fierce and added to a lot of the damage and that the tornado was generated by a pyrocumulonimbus cloud on the fire's convection column. In other words, part of the intensity of the adverse weather conditions was a direct result of the fuel build-up. Am I understanding that correctly?

Prof. Taylor—As a geographer and having studied something of climate and something about bushfires, I would say that I could not do anything but agree that fires generate their own climate. I am just old enough to remember the end of the Second World War and the Blitz in England. I can recall my parents talking about firestorms that were created. Indeed, the day I came back from the coast—I was called urgently to get back as quickly as possible—when I came over the top at Queanbeyan I was chilled and stunned. I had not seen a sky like that since I stood at the front door as a three-year-old and watched Manchester burn in the blitzkrieg. It was very frightening. There is no doubt that those fires created their own havoc in Chapman as well in the way it happened there, and it was heat from the build-up of the fuel.

Mr BARTLETT—So it would be fair to say that if there had been less fuel accumulation, the weather conditions at the time might not have been as intense either?

Prof. Taylor—One suspects so.

Mr MOSSFIELD—Professor, in your submission you said:

There is no tangible evidence to suggest that there has been a previous fire of such … magnitude …

How would you compare the 2003 fires with the 1939 fires?

Prof. Taylor—I was looking at that. If I was writing that again I would rephrase it, the extent of it. The ferocity of that fire and the heat were clearly very high, like this one, but it is the extent of this one. We did not come to Canberra until 1975 but there were fires sometime in the fifties in the Gudgenby area. It is possible and quite likely that the ferocity of that fire was held in check by the grassy areas that did not have the same high fuel load. But it is really the extent I was referring to.

Mr MOSSFIELD—Would you agree that the extent of the drought and the climatic conditions on that day, as distinct from anything else that may have created additional heat and so forth, would have added to the high fire risk?

Prof. Taylor—Undoubtedly they would, but I do not think that they were unique. And I use the term 'unique' in the true sense of the word.

Mr MOSSFIELD—Were they more severe than at other recent periods of time that you know of?

Prof. Taylor—No, I do not believe so.

Mr MOSSFIELD—You would say that they would be similar?

Prof. Taylor—They are similar. We tend to have short memories and a selective way of looking at the way we live in Australia. We forget that drought and prolonged drought and high temperatures are a part of living here. That was not a unique occurrence in my view of going through the records.

Mr GIBBONS—Professor, you referred to the practices of our Aboriginal forefathers who dealt with this practice. I have often heard that over the last few years. Has there been a detailed study which is well documented as to what methods they used to be able to alleviate the problem?

Prof. Taylor—No, because people did not study what they were doing when they came here.

Mr GIBBONS—So what do we base the statement on that they were able to do it? How do we know that?

Prof. Taylor—We assume. I keep qualifying what I say with assumptions, but on the other hand we know from traditional practices in the Northern Territory that there are certain ways of doing it. Now, the Northern Territory is different, it has different vegetation, but they burn to clear up the spear grass and to get new grass growing. The late Professor Rhys Jones and I used to talk about this. He studied in the Northern Territory. One of the things they talk about—and I have asked Northern Territory Aboriginal people—is that they also do it to tidy up the landscape. I do not think that the way different cultures see landscape and what appeals to them differs all that much. It is one of the things that interest me, the way Aboriginal people have traditionally

seen country and the way we see landscape. I believe that there is, for want of a better word, an aesthetic understanding that runs through those cultures. It is a fascinating study of the human mind.

Mrs GASH—Professor Taylor, I understand you have been a long-term resident of Canberra. Is that correct?

Prof. Taylor—Twenty-eight years.

Mrs GASH—That is fairly long term. In your role as a professor, have you been required or requested to give your expertise for management plans either to the Rural Fire Service or to the National Parks and Wildlife Service?

Prof. Taylor—When I was on the heritage committee of the ACT, which preceded the Heritage Council, two of us on that committee discussed these matters with the committee appointed by the parks and conservation service. After the bushfires I wrote to the Chief Minister making some of these points, but I have not been asked.

Mrs GASH—I agree with my colleague Annette Ellis that a 100-metre zone is difficult to achieve in certain areas; however, should we be able to achieve either something like that or smaller zones, depending on the area, who do you think should be the consenting authority? Should it be the state, or should it be local government?

Prof. Taylor—A combination of both. I am a great believer in local and state authorities working together. In the ACT it is slightly different—it would be the ACT government and the NCA—but it is the same thing: two authorities working together. There have to be multidisciplinary, multiprofessional, multimanagement teams.

Mrs GASH—But that is the difficulty that we are finding. I can certainly speak from my own area that, if the local government is the consenting authority, they then have to get the approval of the state, which sometimes brings in the difficulties that we are faced with. I am interested in hearing your opinion as to who should be the consenting authority.

Prof. Taylor—From my experience in local government in England—and having worked for both local government and county authorities—I still believe in trying to get consensus through committees that cross boundaries.

CHAIR—Professor Taylor, have you had a look outside of Canberra, subsequent to the bushfires, at some of the more badly affected areas: Mount Tennant, for instance, where the fire was clearly extremely hot?

Prof. Taylor—No, I have not. I have almost had a closing off. I am reluctant to have a look.

CHAIR—You might like to comment anyway. Following such intense heat—six months after the fires there are certainly areas that are not showing any regeneration at all and soils were clearly almost boiled—what is the potential long-term landscape that we will end up with if that type of fire is allowed to occur, even if it is only every 20 years or 30 years? What is the subsequent result of that type of impact on this sort of landscape?

Prof. Taylor—I do know that Dr John Banks, who has been up there, is of the view that there are areas that are showing great signs of stress and some of the vegetation is not coming back. That is absolutely devastating. One hopes that it will never happen again. Over a period of time it is destroying the landscape, and it is destroying the diversity that most of us love and do not want to see destroyed. I think the landscape would become poorer and poorer over a period of time. This is why I believe that a more balanced approach to management is necessary to work with the landscape.

I know it is sometimes not popular to say this. You often hear that the bush is fragile, but is it? It is harsh, it is beautiful and it is unforgiving if you treat it incorrectly. I maintain that the Australian landscape has not developed on its own; it has been substantially altered by human management over time. I think we have to go on managing it to suit more and more needs. I know that sounds trite but, by leaving it on its own, we have seen the consequences.

CHAIR—I think it is true to say that the overwhelming evidence to this inquiry, certainly based on the submissions, supports some form of management of prescribed burns, but there are a number of submissions that also argue strongly that regular—without putting a time on that, whether it be a couple of years or 10 or 15 years—cooler burns can impact negatively on certain species and also develop a landscape in a particular way. If that assertion is correct, what in your view is ultimately the worse of two evils: the landscape you just talked about potentially being hit with these very intense fires or the alternative?

Prof. Taylor—I think the former is unthinkable. I go back to history again. On the assumption that Aboriginal people did do these cool burns in mosaics over a period of time—leaving some areas and then going back to them, and they had a mental pattern worked out—if that created a diversity of vegetation and fauna, isn't that what we ought to be trying to get back to? It was not pristine nature when Europeans arrived. There is nothing more annoying than that term 'pristine'. It is not pristine nature, and it was not when Europeans arrived. Aboriginal people, in my view, managed it and they created an interesting landscape. I am not sure they lived in harmony with it, because they burned it, but there was a diversity in that landscape. I often ask friends and colleagues, 'If you don't want to interfere in the landscape and manage it, what do you want it to go back to?'

CHAIR—There being no further questions from my colleagues, thank you very much for your input. We very much appreciate it.

Prof. Taylor—I am sorry it was late.

CHAIR—It has been very helpful. Before I call the next witness, at the start of the inquiry this morning I said that, at the end of today, there would be an opportunity for people who have not been called as witnesses to make some sort of statement to the committee. If we stick to time with the witnesses we are to hear from this afternoon, it will be from about 4.15 p.m. In case there are people here now who were not here earlier, I am letting you know of the possibility.

[2.08 p.m.]

HAYNES, Mr Ian William (Private capacity)

CHAIR—Welcome. I think you were in the room earlier when I read the formal part of the start of the proceedings, so I will not remind you of that. We have received your submission, which has been authorised for publication and is on the public record and will form part of the evidence to this inquiry. Would you like to make a brief opening statement before we proceed to questions?

Mr Haynes—I, like a number of other speakers before me, have been around the district for a long time. My family, like some of theirs, has been here since about 1834—some on the land, some cutting the trees down. I have spent a lot of time walking around Australia and I have spent a lot of time walking through Kosciuszko National Park, as well as walking from here right through to Wilsons Promontory. Prior to the bushfire, I walked through that area in November last year and this year I gained permission to walk from Thredbo through to Namadgi information centre looking at the countryside after the fire and comparing it with what I saw before the fire. As well, I have an historical interest in terms of history—our cultural heritage and our natural heritage through the Monaro and Kosciuszko. I take a pretty fair time to observe the countryside as I wander through it, more so than when you are either driving or riding a horse.

Given the controversies that are raised at any time about fires and fire as a management tool, I have always been under the impression that the concept of national parks is to preserve our flora and fauna in an attempt to maintain biodiversity. But if, as many people say, we should burn in the manner we have been burning, we are soon going to remove that. For example, in Kosciuszko at the time of grazing, there was quite a proliferation of flowers or flowering plants. With the onset of grazing, some of these plants almost disappeared—to the point, for example, in Victoria where the alpine buttercup did disappear but was saved by the removal of grazing from the high country—from the actual snow country—in 1944.

I have a real conflict in terms of fire management and flora and fauna preservation within national parks. Forests are a slightly different matter, with forests being managed for timber—so we have a slightly different concept—although, if we are supposed to be the custodians of land, as the Aborigines were, for future generations, we should give our land management a lot more consideration. Looking around Australia, I find that much of our land is dying, yet it seems a large majority of the population appear to be content with the present environmental situation and continue to actively or tacitly support the further destruction of Australia's ancient and fragile environment, further reducing the country's native flora and fauna along with our biodiversity. But while preserving this native flora and fauna may not be important to those whose preoccupation is wealth or personal aggrandisement, or to those who are ill-informed, it is important to many in our community who regard nature as important to their psychological or physiological wellbeing and the country's survival.

Having walked through Kosciuszko, I find it quite distressing to hear a lot of what is being said about fires or not having fires. The damage that has been caused there, I would imagine

from what I have seen, is no greater than what it was in 1939; it is just that it covers a vaster area. Also, in walking through Kosciuszko, it is interesting that you can find parts of the countryside which obviously have not been burnt for a long, long time, because the trees are very large and, being snow gums, they do not like fire. These trees would have to be, from Dr John Banks' study, well in excess of 200 years of age. Some that I have photographed repeatedly over time are certainly much older than that. They are some of the biggest snow gums I have ever seen and they are very isolated. In several of these areas, you have to go to a small, isolated patch to find this tree heritage, I suppose you could call it. Everywhere else has been burnt so much the landscape has been completely changed.

People talk about Aboriginal land management, and this may well be true. I am sure they did not burn all the countryside. For example, in the mid-1830s David Reid was going from his property at Bunyan—called Reid's Flat, at that time—across through Kiandra. He was heading down towards Albury. He left it a bit late and the snow beat him to it. On his way out he met some Aboriginals, and he asked them, 'Why are the trees dead all through this countryside?' and they said, 'It was the big snow.' The comment 'it don't snow like it used to' is often made, and I have found that in my lifetime certainly it is not as cold in this part of the world as it was in 1940. It does not snow down in the lower country like it did—there is no doubt about that. Also, from the 1300s through to the 1800s the world was going through a miniature ice age, so when the white man was arriving in Australia we were still coming out of a very cold period. Therefore, I find it very difficult to believe that we had such intense fires during that cold period as we have been experiencing in recent years, given that we now have a problem called global warming. That appears to have been brought about through a couple of things. The first is industrialisation since the eighteenth century and the second is a natural phenomenon. When we combine the two, we have things a bit warmer than they were. So our past fires were the result of a number of naturally and artificially occurring situations compounding.

Yet in looking where I walk—and I spend much time walking—I see many old trees that are very large and widespreading. The only way they could have formed would have been in an open forest, which would not be like the countryside we have today in many places, where it is growing rather rapidly. Also around the snow country on the margins of the tree lines you find that woody plants are encroaching into the snowgrass country. Whereas I walked in there 10 years ago, now I cannot go back and walk in those same places without a fight, albeit now they are burnt out where the fires came right up into the snowgrass country. So there is definitely a change environmentally. Whether it has been burnt in the past or not is a matter for the scientists to tell us. I am not in a position to make a judgment on that at all. I can only state what I have observed.

Mr GIBBONS—Your submission suggests that the failure of a regime of prescribed hazard reduction burning to prevent the intense wildfires is demonstrated by the damage to the country burnt in the 1925-26 fires and the 1939 fires. If that is the case, to what do you attribute the ferocity of these particular fires, apart from the obvious environmental things you just mentioned? If there was inappropriate hazard reduction, why were these fires so intense and what would have changed?

Mr Haynes—I do not think I said this fire was any more intense than the 1939 fire, except that this fire covered a vaster area.

Mr GIBBONS—Let us face it, they were all very intense fires—the fires in 1926, 1939 and last year's. To what do you attribute that intensity?

Mr Haynes—For 2003?

Mr GIBBONS—Yes.

Mr Haynes—To climate warming and the greater growth rate of all the plants. We have atmospheric carbon, which is actually a way that the trees and plants are finding fertiliser, and the climate is warmer so they are growing at a much more rapid rate. So we have a greater fuel build-up everywhere, not just from our burning practice or grazing practice in the past but purely from actual climatic conditions, and we are inevitably going to get more, as the climate tends to warm.

Mr GIBBONS—So you are saying that these fires would have been as devastating if there had been hazard reductions?

Mr Haynes—In walking around the bush I see the way the country regenerates so rapidly. In some places where there had been fires in recent times this fire went straight through as if there had been no burning there before, so in some places hazard reduction burning is questionable. But it depends what we want to try to achieve with that hazard reduction burning. If a national park is supposed to be for the preservation of flora and fauna, how do we go about burning it? Nobody has actually sat down yet and decided how, when and where we should burn it and how frequently we should burn it, and I think many people do not sit down and look enough at what has happened historically to try to understand what is going on. It is all very well to make assumptions based on hearsay or anecdotal evidence.

Mr BARTLETT—Are you saying—just correct me if I am wrong—that in your view high-frequency, low-intensity fires are more damaging to the environment biodiversity than low-frequency, high-intensity fires?

Mr Haynes—No.

Mr BARTLETT—You are not saying that?

Mr Haynes—I did not say that.

Mr BARTLETT—In that case, you are not saying that there are more dangers to the ecosystem by periodic hazard reduction than by allowing nature to take its course?

Mr Haynes—With your periodic hazard reduction it depends on what you are trying to achieve. In some instances, if we wish to preserve certain species, it is necessary to burn. For example, if the current habitat of the ground parrot in Tasmania—and the Barren Grounds—is allowed to continue, those birds will disappear. As a consequence, for the Barren Grounds and down at Wilsons Promontory, the countryside is being burnt in certain areas to maintain their habitat.

Mr BARTLETT—You are not opposed then, generally, to a program of hazard reduction to reduce fire intensity? That was the impression I got from reading your submission.

Mr Haynes—That is correct.

Mr BARTLETT—What is correct? That you are not opposed to a program of hazard reduction?

Mr Haynes—I am not opposed to appropriate hazard reduction.

Mr BARTLETT—Could you define 'appropriate' for us?

Mr Haynes—As I stated, if we have a specific purpose rather than just to hazard reduce the countryside. There are certain parts of the countryside which, for example, around the bounds of any national park, from a hazard reduction or a fuel level point of view, have to be maintained differently from what you are going to do within a national park itself—away from property holders of any description—or within a forest. The control regime around the borders of a park is going to be entirely different to what it is inside the park.

Mr BARTLETT—Is it your view that, had a program of hazard reduction occurred over the past couple of years, say, in the Brindabellas, the intensity of the fires that we experienced last summer would have been less?

Mr Haynes—Not having walked in the Brindabellas over the period of time, I could not say. I am not aware of what was on the ground.

Mr MOSSFIELD—You were in Canberra during the fires in January this year?

Mr Haynes—I was down the coast, trying to get back to the fire.

Mr MOSSFIELD—When did you get back from the coast?

Mr Haynes—I was back here at 10 o'clock that night, cleaning off my roof.

Mr MOSSFIELD—So you did not see or experience the fires starting?

Mr Haynes—No. It was well under way by the time I arrived.

Mr MOSSFIELD—How long have you lived in Canberra?

Mr Haynes—Since 1965.

Mr MOSSFIELD—How do the climatic conditions and the drought compare with other years. I know you have been fairly specific in your views on the effect that the drought and the climatic conditions had as far as this bushfire is concerned.

Mr Haynes—In 1968 we had a severe drought here in Canberra. We were not allowed to turn our hoses to water what little garden we had; but then again we had a very small population. I do not think we had Corin Dam then. It was extremely dry then. We had fires up in the Kosciuszko National Park around that time, which were fairly severe. Certainly when we first arrived in Canberra, it was cooler. I do not find Canberra as cold in recent years as what it was in the mid to late sixties. And we do not get snow like we used to then either.

Mr MOSSFIELD—How does controlled burning contribute to an increase in fuels rather than a decrease? Do you believe it does?

Mr Haynes—In certain cases, yes.

Mr MOSSFIELD—How?

Mr Haynes—By changing the soil structure you allow certain invasive plants to take over, especially woody plants. If you burn too frequently, you are going to remove the seed source for future generations of plants that come along. So you can change it from grassland to a piece of countryside which has a lot of woody plants growing in it. I walked through Kosciuszko after the fire, especially up in the high country around the middle of the park where it was open with grassland herbs, forbs and plants like that. As the ember storm went through it started fires anywhere the plant communities were slightly open, wherever there were some woody plants.

If the grass thatch was very tight and close there was hardly a mark on the grass. You might find a piece the size of these coasters where the fire was starting to go out. In other places it roared straight through. Anywhere amongst the trees where there was woody material it would burn straight through. It burnt anywhere it was open. As you walk up around the side of the Rams Head Range, which is just past Thredbo, you can see patches of grass which were totally untouched. In places where there were woody plants and a plant community growing in a wet area like a bog, if the embers could get in amongst it, it would burn but where it was tight there was no fire. So it is very easy to change the plant regime if the fire comes too soon or is too intense and then other fires will come along after it. But in Kosciuszko the fires were in 1925-26 and in 1939, and now again this year.

Ms ELLIS—Mr Haynes, thank you for what I found to be a very thoughtful submission. Do you have scientific qualifications of any kind?

Mr Haynes—None at all.

Ms ELLIS—So this is all self-taught and self observed information?

Mr Haynes—That is correct.

Ms ELLIS—I commend you for that because a lot of thought has obviously gone into it. I do not want to lift anything out of context from your submission because there is a lot of information there, but there is one statement which has got me interested:

Claims that most fires start in parks is rather ridiculous. In Victoria for example since 1900 how were 13 out of 19 major fires able to spread when national parks were less than 1% of the state?

I want you to discuss that with me because, to be very blunt and frank with everybody, we are hearing two perspectives in this inquiry. I will be terribly frank for the purpose of getting this across. On the one side we are told that the environmentalists and the creation of national parks are basically the problem. On the other side we are told by the environmentalists that everything is going to be perfectly fine because we need to have national parks. People from both sides have to live in the world in which we live and I am not wedded to either view because I do not think either is completely right.

I just wonder whether you can discuss with us your perspective of how we can allow on our land people who make their living out of grazing, timber products and so on, and at the same time allow what I believe to be the important thing, which is the preservation of the environment which we are entrusted with. You are obviously very good at looking after it because you have a very knowledgeable submission here about it. I take your point: one per cent of the state was devoted to parks so they could not be entirely to blame.

Mr Haynes—True.

Ms ELLIS—Can you talk that through for us from your perspective?

Mr Haynes—It appears that whenever something happens in the bush it is always the parks that are held responsible. It is believed that dogs come out of the parks—and they more than likely do.

Ms ELLIS—Yes, they do.

Mr Haynes—Horses come out of the parks; all the pests come out of the parks. In many cases that happens but the reverse is true too. Fires also come out of the parks but the majority of fires go into the parks rather than come out of the parks. I guess with the ever-increasing pressure of population more and more people want to use all these available areas for different purposes. So we have conflict. We have an enormous number of exotic plants and creatures going around the countryside and they invade our parks as well.

I guess one of the greatest problems that park managers face is the lack of resources—as has been alluded to by others. It is all very well for whatever government to create national parks but no additional resources are being devoted to those parks to manage them. As a consequence of that we have a huge invasion of exotic plants. Animals, including pigs, love to wander along fire trails. No matter where you go, the more you disturb fire trails or anything like that, the greater number of exotic species will slowly make their way into our parks. Maybe it is time to change the attitude about what parks are for.

Ms ELLIS—What do you see them being for?

Mr Haynes—I would still see them as maintaining our flora and fauna and trying to maintain our biodiversity. After all, they are such a small proportion of the country. National parks within New South Wales represent six per cent—

Ms ELLIS—I think you say here that five per cent of the state is designated parks and reserves.

Mr Haynes—That is all in the recent edition. I think the figure for parks is approximately 6.5 per cent within New South Wales, a very small proportion of the total area of the state given that other large parts are also state forests which are quite different. The problem with many of the national parks is that they have become national parks after they have been logged. When you look at many of the parks, as I have done when I have walked right through to Wilsons Promontory, you can actually watch the change in the forest, whether it be a park or not, as you go through and you can see whether forests have been logged in our national parks. I guess some time in the future we will change our legislation to remove those parks so we can log them again. In the meantime we change forest to parks. As the pressure of the population size increases we are going to have to change our attitude to what the parks are really for or which part of the park is going to be used to preserve biodiversity.

Ms ELLIS—So that we cannot have anybody taking out of context the comment you just made about fire trails and exotic plants and feral animals, what you are saying is not that we do not have fire trails—we have them but we have to find the money to maintain them so that if the infestation of animal or weed occurs we can get rid of it. We need fire trails—is that what you are saying?

Mr Haynes—Unfortunately, the fire trails are there. After the current fire there are many fire trails which are lying dormant. The current park management are claiming that they have maintained them in the last two years—they have not. For a walker like me they were great places of access to the park. Because they were dormant there were not the means for all the invasive plants to get into the park as they were not being used by vehicles which move a lot of seeds in through the parks. Where the fire trails were, in terms of trying to remove any feral plants, very rarely was that happening except for blackberries. There has been some attempt to control English broom and blackberries in places but that has been fairly limited. English broom and blackberries are becoming very rampant right across the country.

Ms ELLIS—The other thing we are hearing about is that the drought was there but it had little to do with the fires. We have heard from some witnesses that other components were more relevant or more upfront in terms of the fires around this region. On page 3 of your submission you say quite the reverse. You say:

> There is no doubt that the prime cause of the major 2003 bushfires was the 2002 drought, a situation exacerbated by global warming, a natural phenomena accelerated by industrialisation and burning fossil fuels.

You also make reference to the severity of the drought, and the rainfall between March and December 2002 nationally being the ‘lowest ever during this period’. Would you like the opportunity to elaborate on that? I would welcome that if you want to because we need to hear all views in this inquiry and we are getting a lot of comments around the fact that, yes, the drought was there but the fires would have happened anyway.

Mr Haynes—That depends on what people mean by saying that the fires would have happened anyway. People are generally making that statement because of the fuel build-up which had been occurring for so many years, and in many places that is quite true. But before white man arrived in Australia it was cooler than it is now so the environment has become more volatile, just waiting for lightning strikes. There is no doubt in many areas where I have walked that the fuel level has built up rather dramatically in recent years. In the last 10 years I have been

walking and watching what is going on and in very specific places you can see the fuel build-up. There are areas that cannot be burnt or would very rarely be burnt. I am not a scientific person so I cannot go into the technicalities of that.

Mrs GASH—Mr Haynes, I will take you to the last page of your submission and to part of the last paragraph of your conclusion:

To preserve the environment for future generations it is time the scientific communities advice was heeded rather than advice being driven by sensationalism and ill informed vested interests. All love the bush but, unfortunately, very few have any respect for it.

It sends confusing messages to me. Could you expand on it?

Mr Haynes—Time and time again you will hear about all the users of the bush. I particularly make that statement about them, rather than about the commercial interests, for example. All of us here in this room would love the bush but what I have observed in the bush when I have been out there is that very few respect it. They do not mind leaving their litter, their junk. They do not mind carving it up with their four-wheel-drives or their motorbikes or their horses or whatever the case may be. Walkers carve it up as well, digging holes and many other things. Many people have to have a fire. That seems to be the done thing in the Australian environment. Fires almost seem to be a necessity. You find there are fire scars all over the place where they are totally unnecessary. I have seen people drag firewood for quite a distance to get it up in the snow country, just to have a fire in the snow grass. This is not far from the base of Kosciuszko and—

Mrs GASH—I understand that. Can I break in here because I think we are at cross-purposes. I understand what you are saying in that regard. Could I bring you back to some previous submissions. You are talking about scientific evidence or knowledge. If you are saying that scientific advice should be heeded, in what category would you put those people who have spoken here this morning who have had their homes burnt out by the fires, as well as volunteers and bushfire people? Are you saying it is scientific advice versus local knowledge?

Mr Haynes—No, not at all.

Mrs GASH—Can you expand on that for me? Where would you see those people who spoke this morning? Do you put them as being ill informed? Do you put any credence on what they have given us here today?

Mr Haynes—Every piece of land has a specific use and it has to be managed relevant to that use, so managing somebody's grazing land is quite different from managing a piece of national park or managing a piece of forest or managing the fringes of suburbia. Each piece is totally different. I think that each piece has to be looked at individually. We do not particularly need a great amount of science to tell us how we need to manage the border around our backyards within the urban fringe. We know from what we have seen that it needs to be cleared, and 100 metres is probably a good distance to do it where that is possible. There is no doubt that with national parks the boundary between the parks and private land needs to be managed differently, as I said earlier, from how land is managed further inside the parks, in order to protect each community and people's private property.

Mrs GASH—So you would see scientific knowledge as being equally as important as the information that we gained at this inquiry this morning?

Mr Haynes—Each has to be weighted for the purpose. We are looking at it from a different perspective each time, so I am not sure: do we give what we see equal weighting to scientific opinion or what people on the land say?

Mrs GASH—I will finish on this but I just want to get this right in my head. So if there is a bushfire and I am among volunteers wanting to fight the bushfire, do I turn around and say, 'Wait, I haven't got the scientific knowledge' before I fight this fire? I am not trying to be smart; I am just trying to get your opinion on this.

Mr Haynes—The fire has to be fought and if property is at risk we have to use whatever tools we have available to do it at that point in time.

Ms PANOPOULOS—I will start from that last paragraph again. Regarding the advice of scientific communities, are you aware of the work that Phil Cheney has done in this area?

Mr Haynes—I have not read it, no.

Ms PANOPOULOS—Mr Cheney and others do have that scientific background and would oppose your perspective. They would have a different opinion and it would be a professional scientific opinion. Would you agree with them just because it was a scientific opinion or would you disagree with them on the need to hazard reduce?

Mr Haynes—We might have a disagreement of opinion.

Ms PANOPOULOS—So even though you say that scientific advice should be heeded, you are basically only saying scientific advice that accords with your point of view and not scientific advice that supports fuel reduction? Yes or no will do.

Mr Haynes—That is leading as well, isn't it? I guess that, as many would say, 'They are the experts.'

Ms PANOPOULOS—Were you involved in any of the firefighting?

Mr Haynes—No, I was not.

Ms PANOPOULOS—You did not go near the fires?

Mr Haynes—Not while they were occurring, no.

Ms PANOPOULOS—So you would not have had an opportunity to see the condition of the fire trails?

Mr Haynes—When?

Ms PANOPOULOS—When they needed to be used—immediately after the fires began.

Mr Haynes—No, but I have seen a great many of the fire trails immediately before the fire and after the fire.

Ms PANOPOULOS—Do you accept, with the particular conditions we had and with the very large geographical areas that burned at one particular time over January and February, that fire trails were essential in attempts to contain the fires?

Mr Haynes—In many areas, yes.

Ms PANOPOULOS—You have spoken about noxious weeds and biodiversity. You mention state forests and national parks in Victoria. That caught my eye because the one million hectares of my electorate which burned was mostly national park. You say that trails promote the spread of exotic plants. Are you familiar with the change in biodiversity, which you mention quite a bit in your written submission, since these very large national parks were created, or since they changed from state parks to national parks, when multi-use was effectively stopped and these areas were locked up?

Mr Haynes—What do you term 'multi-use'?

Ms PANOPOULOS—The sorts of uses allowed in state parks that are not in national parks—gold panning, horse riding et cetera. Are you aware of the change in biodiversity from 10 years ago to today due to noxious weeds in these parks that you referred to in Victoria?

Mr Haynes—Yes.

Ms PANOPOULOS—Would you agree that there has been a huge increase in noxious weeds in these parks—mistletoe and blackberries?

Mr Haynes—It has been more than huge.

Ms PANOPOULOS—This increase in noxious weeds has occurred when fewer activities are allowed in national parks and more areas are being locked up.

Mr Haynes—Not necessarily. Many exotic plants need time to mature in the Australian environment.

Ms PANOPOULOS—You have studied the growth patterns of these plants?

Mr Haynes—No. I have read what happens and I have observed what has been going on. For example, with blackberries, I have observed—as many of us who go into the bush have—that in the last 20 years there has been an enormous explosion of blackberries along all our streams, at Goodradigbee and places like that.

Ms PANOPOULOS—Specifically with these parks in Victoria, because you mention them and the spread of exotic plants, would you agree that these noxious weeds have spread out of control at a time when fewer people are going into these areas?

Mr Haynes—Blackberries do not respect people, so whether there are fewer people or more people will make very little difference to blackberries, for example, or the English broom.

Ms PANOPOULOS—You are not aware of any scientific studies that talk about the change in biodiversity as a result of noxious weeds, exotic plants and feral animals?

Mr Haynes—I have not read any, no. But it is fairly obvious to me that if you walk through those parts of Victoria or New South Wales, if there is such an enormous spread, as there is in Victoria, particularly between Mount Wills and Mount Bogong, where the blackberries have taken over entire mountainsides, not just stream beds or along creeks, there must be a change in biodiversity in that area. But quite a bit of that has been disturbed by logging, because in that very same area people have had to put in nesting boxes for the possums in those areas, otherwise they are gone.

Ms PANOPOULOS—Are you aware of the practices that were used by contracted foresters over 10 years ago in the elimination of noxious weeds in some of these areas?

Mr Haynes—No.

Ms PANOPOULOS—That might be some interesting research you might want to do. We have also talked a bit about the history and Aboriginal burning. You say there is no doubt that Aboriginals did burn but they, like any responsible community, successfully managed their environment, not destroyed it. Are you familiar with what burning practices Aboriginal communities had?

Mr Haynes—No less than everybody else in the room.

Ms PANOPOULOS—So you are really not basing that on anything you have read or any knowledge or information.

Mr Haynes—Yes. A.W. Howard's *Tribes of South-east Australia* is a good example, which is on my list.

Ms PANOPOULOS—I find it perplexing, because you seem to be implying that the mosaic burning conducted by Aborigines was responsible management but if some of our farming community now wants to emulate that and assist in mosaic burning, somehow that is not responsible management.

Mr Haynes—I have not said that at all.

Ms PANOPOULOS—No, but if you accept that it was responsible management, why can't that be replicated today? Do you think we are incapable of following that?

Mr Haynes—Most farmers do that on their properties. It is part of their farm management. But in national parks we are not managing those in quite the same way as the Aborigines managed the countryside when they were burning. If you go to the northern half of Australia, you will find that fire management there was quite different to what you would expect to find in the southern half or the south-eastern part of Australia.

Ms PANOPOULOS—As is the terrain. You also mentioned that Aboriginal burning practices appear to have been prevalent in grasslands. You do not know that.

Mr Haynes—Not really; only from what I have read.

Ms PANOPOULOS—You also said that reduction burning can eliminate many species from the undergrowth communities, especially those which are slow to mature, while lack of burning allows the short-lived species to die out but leave a seed bank in the soil. What do you base that on?

Mr Haynes—There are a number of scientific publications that actually discuss that particular situation.

Ms PANOPOULOS—Right. Would you like at a later stage to provide those as footnotes to your submission?

Mr Haynes—They are in the bibliography.

Ms PANOPOULOS—You have also made statements that the environment was cooler before white man came to Australia.

Mr Haynes—Correct.

Ms PANOPOULOS—Do you have access to any information in that regard?

Mr Haynes—No more or less than you.

Ms PANOPOULOS—That is why I was fascinated to ask, because it is a rather bold statement and I was not aware of there being before the arrival of white man, as you put it, any comprehensive data collection in that regard, but if it was available I would have liked to have had a look at it.

Mr Haynes—It is interesting reading a book called *The Little Ice Age*, which talks about the little ice age between 1300 and the 1900s.

Ms PANOPOULOS—You are very critical of fire trails and we have talked about the problems of feral animals and noxious weeds. Are you aware of any study or have you observed fire trails actually promoting an easier path for feral dogs to walk along, making it easier for them?

Mr Haynes—Yes.

Ms PANOPOULOS—You are saying that the cleared path for fire trails helps noxious weeds?

Mr Haynes—It promotes them, yes.

Ms PANOPOULOS—How does it promote them?

Mr Haynes—Through regular vehicular access. In many parts of Victoria, for example, there are forests, particularly multiuse forests, where we have trail bikes, four-wheel drives, horse riding, walkers and so on. You have only to walk along the well used fire trails to see the growth of blackberry seedlings and English broom along the ruts where the vehicles go.

Ms PANOPOULOS—Are you saying that in an ideal world we should not enter these areas at all?

Mr Haynes—If we are going to provide entrance then we should provide the resources to maintain them—whether they be fire trails, national parks or whatever.

Ms PANOPOULOS—Thank you.

CHAIR—Mr Haynes, in your earlier evidence you mentioned fire trails in Kosciuszko National Park in answer to a question from one of my colleagues. You have also mentioned that you have spent a lot of time in that region. What would you say about the following statement made by the New South Wales Minister for the Environment in a letter in the *Cooma Monaro Express* in February:

> No fire fighters were unable to get access to fire trails during the fires and every single one of the 1,100 km of fire trails within the park had been maintained over the past two years.

Mr Haynes—Unless those fire trails were open between about 17 November and the day the fires went through there, there is something wrong with that statement because the Grey Mare fire trail, for example, in the middle of the Kosciuszko National Park had not been touched for quite some time. The Mosquito Creek fire trail had not been touched for a long time. The fire trail at Leura Gap had remained dormant for a long time. At Murray's Gap it had been dormant for a long time. I have been going to question that myself by asking: were they dozed just prior to the fire or has this occurred only after the fire? If I make that statement I am told, 'No, they were all maintained,' but that is not true. Unfortunately, I did not photograph them then but I did photograph one in particular in 2001 when I was walking through to Wilsons Promontory. At that time there were large logs across the Leura Gap fire trail as there had been for many years. A reading of the park service's plan of management on fire control, which is only in draft form, shows these fire trails were dormant.

CHAIR—Assuming the minister had not inspected all the 1,100 kilometres of the fire trails himself, he must have based that statement on information provided to him which is, from your experience and observation, clearly wrong. Certainly, this committee has also been given evidence that the Grey Mare trail had to be opened up once the fires had actually started.

Mr Haynes—It may be possible, if the fire trails were maintained between November and early January—the time I had not walked them.

CHAIR—You mentioned the Grey Mare trail and this committee did drive along part of the Grey Mare trail after the fire to inspect it. In some of your earlier evidence you also said that in those wet areas where the fire passed it was only where there were woody plants that they

actually burned. How familiar are you with where the fire actually burnt in that region, particularly that part of the Grey Mare trail which goes across quite a wet area, which actually got burned in parts. The grass burned quite significantly.

Mr Haynes—That is true there. The part I was referring to is up higher, to the south of Mount Jagungal.

CHAIR—Are you aware of the activity of that fire in the region where the park actually adjoins some of the existing freehold land in the Snowy Plains?

Mr Haynes—No, because I have not been there since the fire.

CHAIR—You made the remark that it passed over areas that had been grazed, but evidence given to us in Cooma last week was that those grazed areas of private land, which I think is totally surrounded by the park, were in fact where the fire stopped. Would you like to comment on that? Which areas are you talking about when you say that the fire passed over grazed areas and it did not make any difference?

Mr Haynes—I am just trying to think where I was. Yes, as Peter Cochran was saying, in the grazed areas in the northern part of the park where the brumbies are there were large areas that were not touched by the fire. But I have not been to the Snowy Plains since the fire just to see what happened right in there.

CHAIR—Thank you.

Mr BARTLETT—Mr Haynes, in the first paragraph on page 5 of your submission you mention the existence of 'well spaced very large trees of multiple age with spreading limbs' and you say twice in that paragraph 'prior to the 2003 fires'. Am I to understand from that that they were destroyed during the 2003 fires?

Mr Haynes—Some of those trees were.

Mr BARTLETT—Some were destroyed during the 2003 fires, yet they had survived decades of hazard reduction prior to that?

Mr Haynes—No, there was no hazard reduction in that area at all.

Mr BARTLETT—There was hazard reduction through parts of the Kosciuszko, though, that prevented fires from getting out of control and reaching those tall timbers?

Mr Haynes—The trees that I was referring to were snow gums in the snow country. I am not sure what the elevation of the area is, but those trees would have had no fire through them since grazing in the area ceased—if they were even burnt then.

Mr BARTLETT—But the change in management systems that allowed a fire to get out of control destroyed these beautiful tall timbers because of the intensity and the ferocity of this fire and this last summer?

Mr Haynes—Given the fire we had and its intensity, the countryside was sufficiently dry and the temperature was sufficiently high for a lightning strike that occurred anywhere there to have started the fire, not just to have gone through from the distance it covered to get there. Had there been a lightning strike around these snow gums in that area, there is no doubt it would have ignited and started there too, because that country was also extremely dry.

Mr BARTLETT—But in fact it had started elsewhere?

Mr Haynes—That is right.

Mr BARTLETT—The fire did get out of control and, as a result, these trees that had withstood decades of hazard reduction in surrounding areas—not in that particular area but in other areas—have now been destroyed by this fire?

Mr Haynes—Was the fire out of control there? You are telling me that the fire was out of control there.

Mr BARTLETT—If it was not out of control then I would wonder why these precious trees were allowed to be destroyed.

Mr Haynes—People fighting the fire can cover only so much ground at one time.

Mr BARTLETT—Indeed. Thank you.

Ms ELLIS—I just wanted to make a concluding comment, Mr Haynes. We all seem to be quoting from your final paragraph. I want to finish with a comment from your last paragraph where you say:

> Diversity of regimes and habitat is the key to any management policy. If prescribed burning regimes are not developed to maintain specific habitats then biodiversity will suffer at the cost of a significant reduction in species.

I find that to be a very supportive comment for all intents and purposes. Given that you have told the committee today that you are not a scientifically qualified person, I want to repeat my thanks for the thoughtfulness of your submission and the exhaustive list of references that you have put at the end of it. I assume that all of those are involved in the information and facts you have put in your submission, and I thank you for that.

CHAIR—You said earlier that most fires start outside national parks and go in rather than the other way around. I presume you were talking historically, over a period of time?

Mr Haynes—Yes.

CHAIR—But would you accept that, in the most recent fires near the ACT, Kosciuszko and Victoria, the majority of those fires actually started in national parks?

Mr Haynes—Yes.

CHAIR—Thank you very much for your evidence and your submission.

Proceedings suspended from 3.01 p.m. to 3.18 p.m.

VERCOE, Mr Timothy Kent, Centre Director, Asset Protection, Forestry and Forest Products, and Bushfire Coordinator, Commonwealth Scientific and Industrial Research Organisation

CHAIR—Welcome this afternoon. Do you have any comments to make on the capacity in which you appear?

Mr Vercoe—While I am from the Division of Forestry and Forest Products, which incorporates forest health and bushfire behaviour research, I am representing research across the organisation, which includes several other divisions.

CHAIR—Although the committee does not require you to give evidence under oath, I advise you that these hearings are formal proceedings of the parliament and, consequently, they warrant the same respect as proceedings of the House itself. I remind you that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of parliament. We have CSIRO's submissions—the initial one and the follow-up, detailed submission. They have been published, are on the public record and form part of the evidence that we will take into account. Would you like to make a brief opening statement before we proceed to questions?

Mr Vercoe—I will be brief. One of the reasons that I am here is that I am representing research across the spectrum. There is certainly debate in the scientific community about some of the issues that you have been evaluating. In the submission we have tried to provide some depth and background to the interactions between research into biodiversity and impacts of fire on biodiversity, as well as management and safety of life and property. We have tried to bring that together in this report and to address your terms of reference. I do not really want to say too much more; there is quite a lot in the submission here. I would be happy to take questions that you might have on the submission.

CHAIR—Thank you. What divisions of the CSIRO, specifically, had input into your submission?

Mr Vercoe—The Division of Manufacturing and Infrastructure Technology provided input on fire in the urban environment, CSIRO Sustainable Ecosystems provided information on research on fire and biodiversity, and Forestry and Forest Products provided background information on fire behaviour and management.

CHAIR—Were there a number of staff members of the CSIRO involved in that particular process?

Mr Vercoe—In all there were 10 people involved in putting the submission together. I am representing them because they are spread across Australia—we have people from Northern Territory, Victoria, some in the ACT and some in Western Australia.

CHAIR—You go into some detail in the submission about the effect of grazing on the landscape. Basically, the CSIRO is saying that there is no evidence to indicate that grazing reduces the potential impact of intense fires.

Mr Vercoe—That statement is based on the research that has been done that shows that animal grazing in the park is concentrated on the wetter grassland areas, which tend to have a lower impact on fire intensity. The intense fires come through the heath land area, which are not so much impacted by grazing.

CHAIR—The committee has heard evidence saying that, in actual fact, the fires in a number of locations were reduced dramatically—if not stopped—when they hit areas that had had grazing. Do you have some response to that evidence that has been provided by other people?

Mr Vercoe—Without looking at the particular cases, the comments I would have would be that it is possible that those areas would have stopped the fire anyway in the absence of grazing—the issue being that grazing normally occurs on the wetter and boggier areas. The other thing that grazing can do is increase accessibility to some of the areas, and accessibility is certainly a factor in tackling the fires. But I cannot comment more than that, not having heard the previous evidence or seen the particular case.

CHAIR—It seems that your evidence with respect to grazing is isolated to the issue of cattle grazing.

Mr Vercoe—True.

CHAIR—Given that a lot of the high country that was grazed prior to the late 1960s—and in some cases, in some limited areas, the early 1970s—was grazed by sheep, do you have any particular evidence of the impact that sheep would have on the landscape?

Mr Vercoe—I do not have any direct evidence on that. Again, sheep are unlikely to graze in the heath land areas that are the most explosive element of the vegetation. I would think that sheep grazing would have a limited impact. The other comparison made in the submission is between areas in Victoria, where grazing has persisted, and areas in the ACT and New South Wales where it has been eliminated. We saw very little difference in fire behaviour and intensity across those two areas.

CHAIR—We are still to conduct hearings in Victoria but we certainly have had submissions showing some quite dramatic differences between joining areas in similar types of country—one area grazed and one area not—which would challenge some of the evidence put forward.

Mr Vercoe—That will be part of the evaluation that we do from the current fires. One of the reasons why the bulk of the submission is slightly more general is that it is based on research that predates the current fires. The work we are doing on the current fires is continuing and we do not have a full evaluation on that.

CHAIR—When will that particular research be available?

Mr Vercoe—At the moment the process that we are going through with these inquiries is enabling us to collect a certain amount of the information that we need to modify fire behaviour tables and so on. The bushfire CRC that is about to start will also be evaluating some of the data from the fires that happened over last Christmas. Some of the results will come in the next few months, other results will be incorporated over several years.

CHAIR—What other inquiries is the CSIRO currently making submissions to or has made submissions to?

Mr Vercoe—The CSIRO has made a submission to the Victorian fire inquiry and we have people associated with the ACT coroner's investigation. We have also made submissions to the urban fringe inquiry in the ACT and the urban land use study in the ACT.

CHAIR—Is that the McLeod inquiry?

Mr Vercoe—Yes.

Mr BARTLETT—In your submission you state that there are three factors that contributed to the intensity of the fires: the high fuel load, the prolonged period of drought and the occurrence of extreme fire and weather. Presumably, there is only one of those three that we can really effectively do anything about which is the high fuel load. Given that, has the CSIRO any evidence of whether the fuel load in national parks across the country tended to increase over the past decade or so? Have you got a point of comparison there?

Mr Vercoe—I do not have any evidence to suggest either way.

Mr BARTLETT—Is the CSIRO doing any research into that?

Mr Vercoe—Not directly, no.

Mr BARTLETT—Given that that is the only one of those three areas that we can have any influence over, do you think it would be a good thing for some research to be done into that?

Mr Vercoe—It is probably a bit more complicated than that. Our fire behaviour research is certainly taking into account the varying fuel loads. We are also looking at a range of management actions that we might take to impact on those fuel loads. So, looking at the specific difference between national park and other land uses, the answer is no. As for looking at fuel load in general, yes that is something that we could look at.

Mr BARTLETT—Did you say you are looking at means of management practices that impact on the fuel loads?

Mr Vercoe—We are looking at both.

Mr BARTLETT—Could you elaborate on that?

Mr Vercoe—In terms of management of fuel loads, we are looking at a range of management practices including aerial suppression technology and its impact on firefighting—in particular fuel levels. We are doing research on fire equipment—tankers, trucks and those sorts of things—to see how they can be protected in particular burn over situations. We also have research through the CRC looking at how volunteers carry out their management activities and how they might be trained better and how to better train communities. I guess there are a range of things which impact on fire management in general.

Mr BARTLETT—They are all related to fire management and not to the accumulation of fuel and the relationship between fuel loads and fire intensity.

Mr Vercoe—Probably the most relevant work on fuel loads is related to work on biomass accumulation in either the greenhouse area or forest production in general. The fire behaviour models then look at litter fall and biomass accumulation and make assessments of fire behaviour based on that fuel accumulation. The research, if you like, is done in a couple of different areas, but it will be combined through the fire behaviour models.

Mr BARTLETT—On page 52 of your submission you state that public land management agencies in Western Australia are substantially in advance of their eastern state counterparts in possessing satisfactory guides to fire behaviour in different fuel types. Could you elaborate on that and perhaps indicate what you think the response of the eastern states ought to be to what happens in the west?

Mr Vercoe—We have undertaken quite an intensive research program over the last five or six years on forest types in Western Australia. As a result of that, we have been able to develop good burning guides for prescribed burning in those forest types. The research has not been done in the east to look at adapting those particular burning guides from Western Australia or to compare the burning guides for Western Australian forests with eastern Australian forests. One of the issues with hazard reduction burning, particularly in the east, is that we do not have burning guides which indicate fire behaviour and intensity under the sorts of conditions where hazard reduction burning might be carried out. It is one of the limiting factors in getting hazard reduction burning done.

Mr BARTLETT—I would be interested in your view on a question that I asked Professor Taylor regarding microclimate in the fire. The submission from the ACT Emergency Services Bureau said that the reason for the tornado type effect which really exacerbated the problems and the damage here in Canberra was that convection currents were created by the intensity of the fire. Presumably that was related to the fuel accumulation or fuel availability for that fire as well.

Mr Vercoe—In that the fuel availability and loading is directly related to intensity, yes, that is correct. One of the things that we are trying to do is to better understand those extremes of fire behaviour, because there is an interaction of a number of different factors which provide that result. So it is not fuel alone, but fuel is obviously a contributing factor.

Mr MOSSFIELD—You made an interesting point—and it is something that has not really come out previously—relating to hazard reduction and the fact that, by doing that, you are removing some of the decomposition of the accumulation of the fuel. You made the point that, over a period of time, the decomposition equals the accumulation. Would you be of the view that that process should be allowed to continue rather than back-burning?

Mr Vercoe—This is one of the key issues that we had to grapple with in putting this submission together—that is, the science will tell you how you can reduce the fuel and it can tell you of the impact of that fuel reduction, but it comes down in the end to particular objectives that land managers and the community set. Page 8 of the submission says:

The core of the debate over hazard reduction burning centres on a trade-off that is relatively straightforward to describe but highly complex in its resolution.

That is, hazard reduction burning is essential for fire managers to protect life and property. As Mr Bartlett said, reduction of fuel is the only thing that we can really manage in the fire situation. If you want to preserve life and property in key areas, you are putting at high risk your firefighters and your community if you do not do some form of hazard reduction burning. The issue then is, if you do the sort of hazard reduction burning that is required—that is, lots of low-intensity hazard reduction burns—you will have an impact on the vegetation type and components and, subsequently, on the fauna attached to them. It is really a matter in particular situations of setting objectives of what we want to achieve. Are we going to protect life and property, in which case we need to do certain things, or are we going to manage for biodiversity balance? Those things are going to have to be traded off in certain situations; we cannot do both in the locations that we are talking about, particularly in south-eastern Australia, with population patterns.

Mr MOSSFIELD—So you have to reach that balance?

Mr Vercoe—It is a balance and it is not a one size fits all approach across southern Australia. It is not one size fits all even across small areas of southern Australia.

Ms ELLIS—Thank you, Tim, for representing the CSIRO and thank you to everybody else who wrote the submission. You are representing many views here and I thank you for that. At the beginning of the executive summary of the submission it says:

This submission is a summary of the state of knowledge of Bushfires in Australia based on more than 40 years of research and observation by CSIRO.

Given that, how hard is it to educate all the bits of our Australian community about the reality of bushfire? I see the CSIRO as an absolutely pre-eminent organisation in scientific terms and I understand, from my own knowledge, the work that was done post Ash Wednesday particularly. Forty years of research and still it happens in Sydney and the Blue Mountains every year and sadly, devastatingly here this year—how hard is it to teach us what to do?

Mr Vercoe—It is difficult, as you say, and it is one of the key drivers behind the new cooperative research centre—community education and education of volunteers and firefighters. It may be more than education; getting an increased understanding of the range of issues associated with fire in Australia is a fundamental part of that cooperative research centre's program. In putting this together and in talking to some of the other land managers and fire agencies, there are a lot of things and a lot of information that we know about bushfires which are not acted upon and which are not well utilised either by the agencies themselves or by members of the community. I think that is a huge issue and we are hoping to address it over the next seven years through the cooperative research centre.

Ms ELLIS—It is pretty difficult though, isn't it?

Mr Vercoe—Yes, it is. Part of it is that we have not undertaken very systematic community education programs. Particular areas, you will find, have reasonable education programs.

Normally they are in quite fire prone areas but I think the frequency of extreme fire events is also a process that makes education more difficult because people are very aware of the danger straight after the fire event but the longer you go between events, the less impact education programs have.

Ms ELLIS—Particularly here in Canberra, it is very understandable at the moment for the collective we to have a view that we are now going to stop bushfires. There is a suggestion that if we have an inquiry, the coroner has an inquiry and everybody has an inquiry, we are going to find a way of stopping bushfires. That is ridiculous. I notice further in your submission you say:

> Fire is a natural phenomenon in the Australian landscape. Even the high intensity widespread fires of the past summer in south eastern Australia can be expected every few decades.

I think we all have to agree that that is fact, sadly—and it is only sad because we now live in the place where maybe a few centuries ago it would not have mattered. I do not wish to be provocative about this but I need to ask it. Given that some people are giving me the impression, as a member of this committee, that if we had fuel reduction proceedings to the point that they wish—I do not want to overstate it, it would be going too far to say that this would not have happened, but it would not have happened to anywhere near the degree—that we would not have lost 505 houses and that other things would have occurred instead. I would like to think that is the case but I am having difficulty in grappling with the reality of that. Can you give the CSIRO's point of view on that? Hazard reduction is not the panacea—although it is certainly a part of it. What else is needed?

Mr Vercoe—Even if the community would accept that level of hazard reduction burning, with the weather conditions, the availability of trained people and so on, you would never get that amount done anyway in the real world. There are also extremes. The current fires were probably a repeat of what happened in the late 1950s except that Canberra was not as extensive as it is now. It burnt through similar areas with similar intensity but there were not houses and suburbs in the way at the time. There are things that we can do to mitigate the circumstances. In the submission we talk about the houses being primarily lost due to ember attack not due to direct impact of the fire. So better control or better understanding of ember damage and better house construction and management techniques to affect ember damage would have had a huge impact on the loss or survival of houses in those suburbs.

It is very difficult to comment on whether more hazard reduction burning would have had a greater impact on preventing the severity of the fires that happened last summer, because we had extreme conditions. We had fire weather extremes—tornadoes and so on—created around that. I do not want to go out on a limb and say that it would have been any different. But in terms of the safety of firefighters and some houses, certainly hazard reduction burning has a positive impact. But there is some balance; we know obviously the amount of hazard reduction that we can do, and the amount of hazard reduction that we want to do, because of other objectives that I mentioned before.

Ms ELLIS—Those maps that we have put up on the wall over there show where the houses were that actually got burnt in the ACT. Whilst it is fair to say that the houses immediately adjacent to the pine forests in Duffy were severely affected, there were many sitting alongside them that were not, and there are houses four or five blocks in—nowhere near a tree, in terms of

forests—that exploded. So the indiscriminate nature of it was quite phenomenal. Given that your research, as you have already said, is still under way, are you in a position to give any commentary yet on the ferocity of the firestorm that came in? I will just be the devil's advocate for a second and say, 'I wish the fire at McIntyre's Hut had been put out in the first six days,' but it was not.

So then the next thing we have to look at is what actually hit the urban fringe and what came through, because there are also comments about fire brigades being here and not being used and so on. Now I am not debunking any of that—we know that happened—but I need to get in my head an understanding of what exactly the community, the householders, the firefighters and the police who were out there were dealing with. I know that in a documentary on ABC TV there was a shot which was as if someone had gone out with a big hand and laid all these perpendicular blackened stumps down, like matchsticks in perfect rows, because of the ferocity. There are trees frozen in time, bent in the vicinity of fire. Can you just talk a bit about what exactly the weather pattern of that fire was as it came across and hit the western side of Canberra? Is it too early to ask you that?

Mr Vercoe—It is. Specifically what you are asking me for is being constructed at the moment for the ACT coroner's inquiry.

Ms ELLIS—Okay.

Mr Vercoe—There is a complete fire chronology with the position of the fire at time intervals all the way through a week-long period. I cannot comment on those specific things at the moment, but that work is being done.

Ms ELLIS—One last thing: when we were out in the field in Canberra on Friday, we had a gentleman from Tidbinbilla Station talk about lightning over his head. His property is right at the gateway of the Tidbinbilla Nature Reserve area. They were fighting the fire on his property until they had these massive flashes of white lightning. He did not even know what it was. It was just terrifying enough that they left and went up to the bitumen car park of the nature reserve until they could go back about 40 minutes later. Do you know what that would have been? Was is some phenomenal weather thing that was occurring above the fire?

Mr Vercoe—The information that I have says that that sort of lightning storm is about a one in 10- or one in 20-year event. So that is unusual. The thing about these fires is the combination of a one in 10-year drought, one in 10- to 20-year lightning storm and the two or three days a year that we normally get of extreme weather conditions of high winds and high temperature. So that lightning storm was an unusual event.

Ms ELLIS—During the fire?

Mr Vercoe—Yes.

Mrs GASH—I see that the cooperative research centre has been going for about 18 months or perhaps a little bit longer.

Mr Vercoe—No. It will be signed off, hopefully, in the next week.

Mrs GASH—Sorry; it was the bushfire workshop that started on 29 January.

Mr Vercoe—That is right; that led to the CRC.

Mrs GASH—With respect to the cooperative research centre, do you see information and research being shared on a local, state and federal basis? If the answer to that is yes, which I hope it is, how do you see that being distributed? Do you see it coming right down to the local level of the bushfire brigades on the ground?

Mr Vercoe—Most definitely. As I said before, that particular CRC has a fundamental program in trying to understand delivery of information into the community and to the fire brigade members. It is looking at building models of community preparedness so that we can feed the education in through that system. It is also trying to better understand volunteers' behaviour and how they could better assimilate information. Also, the models of fire behaviour and so on will be adapted so that they can be used outside of the control rooms more effectively. There is a range of different things.

Mrs GASH—With all the bushfires that we have had—and I come from the Shoalhaven, which is pretty fire prone, as you know—has that information not been available in the past?

Mr Vercoe—This is the issue that your colleague was getting at before. The information has been available for a long time, but it is obviously not in a format that everyone is able to access, assimilate or use effectively. At the base level, we have fire danger meters—which are cardboard slide rules—but there is still training and so on associated with how to use them, how to interpret them and how to input information into those things to get a good result. It is an issue.

Mrs GASH—Your submission states:

As the available pool of full time paid fire fighters in land management agencies reduces, fire control and management is trending towards indirect suppression and greater emphasis on tanker crews and helicopters. This often delays the initial response time following the ignition event. It is also reducing the amount of pre-fire, hazard reduction burning that can be done.

It goes on to say:

There is a greater reliance on volunteers as a primary response group rather than as support crews.

That is very true. I have three questions. Did that happen here in Canberra? If so, how can we stop it? Does the federal government have a role?

Mr Vercoe—I cannot comment on the first part, about the ACT. Again, I have not done an analysis on that. As far as I know, that will be done as part of the coroner's inquiry. The third question was: can the federal government do something? The second question was—

Mrs GASH—I have forgotten it myself! You cannot answer the second question, because you do not know whether it occurred or not.

Mr Vercoe—That is right.

Mrs GASH—The question was: if it did occur, how can we stop it?

Mr Vercoe—It has been raised here as an issue. As an agency, CSIRO are not commenting on how that might be changed. We are saying that the way in which fires are being planned and fought—the hazard reduction burning and that sort of thing—is changing because the land use and the way that we are managing land is changing as well. Work forces are being reduced, even in the production forest agencies. A lot of those people would be trained in firefighting and so on. It alters the way in which fire managers can address those sorts of fire conditions.

Mrs GASH—As a credible organisation, which you are, I hope that when you do make recommendations they will be hard-hitting with respect to what should or should not be done. Otherwise, the whole point of having an inquiry is useless, and I can assure you that we do not want it to be seen as being useless. Even though you say you may not make recommendations, I think it is important that you do, as you are a credible organisation. My next question relates to the pool of full-time paid firefighters and volunteers taking a greater role. Do you have an answer to that? I am leading up to the issue of whether we should start paying our volunteers.

Mr Vercoe—That is a really difficult one. As I said, the way in which you can expect volunteers to tackle a fire—the speed at which you can get them to a fire and that sort of thing—alters the way in which you manage it. It comes down to a trade-off between whether you deal with the suppression end of fires—which volunteers tend to do—or whether you look at a more complete package that includes different objectives for prescribed burning and how you incorporate the volunteer work force into that pre-large-fire sort of activity. As for paying volunteers, that is a really—

Mrs GASH—Be brave, Tim. Come on.

Mr Vercoe—I am being gutless here! Maybe there are other ways to address that issue. If you are going down that sort of avenue, there may be other things. I know using the defence forces to do that sort of thing is also a contentious issue, but there are the reservists and things like that. There are other ways that you could incorporate payment for doing those sorts of things. It would be a start if we could get acceptance of the fact that it is different. Then there would be a lot of people who would think about how we live with that difference and what sort of things we need to adjust and how we adjust our fire management and our fire suppression activities to incorporate those differences.

Mrs GASH—But you would agree that we have to make changes?

Mr Vercoe—Yes.

Mrs GASH—If we do not learn from all this, we may not be here in 50 years time but it will happen all over again.

Mr Vercoe—Again, there is a package of things that can be done—ranging from changes in suppression technology and training, community preparedness, hazard reduction burning and burning guides—to get that done in a better and more effective way. It is a whole package of things to address the issue rather than focussing on one thing or another.

Mr GIBBONS—Is the work your organisation is doing looking at the most effective ways of dealing with or fighting major bushfires in terms of appliances used? For example, is it looking at the difference between rotary wing aircraft like the sky crane—or 'Elvis', as it has been dubbed—against fixed wing aircraft to see which is more accurate or effective? Is the best way to go to fight these sorts of fires by air or to deploy more forces on the ground with more appliances? Has that sort of aspect of bushfires been looked at?

I do not know if you are aware of this, but in Victoria there is a manufacturer that makes a fireproof firefighting appliance. That is an appliance that will allow a major bushfire to pass right over it and protect the crew. It is completely fireproof. It sprays foam on all the wheels to stop the wheels from exploding and then it is able to be utilised or driven out. The South Australian government has ordered a couple of these vehicles to try them out. The Victorian government has decided against it because it believes that the crews, believing they are in this cocooned environment—and it is tested that it is true—will then put themselves in a more dangerous situation and test the appliance beyond its deliverance capability. I would like to know what your views on those two aspects are.

Mr Vercoe—One of the first projects in the CRC will be reviewing current aerial suppression technologies. We had a project nearly 10 years ago looking at aerial suppression, mainly with fixed wing aircraft in Project Aquarius. Aerial suppression is good as a support activity for ground based things. It can be moved into position quickly. But, at the end of the day, you still need people on the ground and you still need some means of fuel management, if you are going to tackle these things.

You mentioned the reasons why the Victorians have not gone with the particular fire vehicle. I guess we would agree with that in that a lot of our research has been directed at making sure people do not get into situations where they need a vehicle like that. As I mentioned earlier, we have had a project looking at spray protection systems for existing fire trucks. That is a cheaper alternative. It is an emergency system which can be deployed to enable trucks to survive a burn over 20 minutes. I guess that is as far as we would go.

When we are talking about paying volunteers and that sort of thing, the cost of equipping fire forces with that sort of machinery is going to blow things out of the water quite significantly as well, as the aerial suppression activities do. I think New South Wales spent $100 million on aerial suppression over the last summer. That is a significant amount of money, and that is before you get into the number of people involved on the ground and the trucks and equipment that are involved.

Mr GIBBONS—Is there evidence to suggest that that $100 million might have been better spent on other aspects of firefighting?

Mr Vercoe—Let us just say there is a question mark over the full effectiveness of aerial suppression as a stand-alone activity. It is certainly valuable in support, but you could not use only aerial suppression technology. There is also the question of when to use it and when to use it most effectively, which has not been resolved adequately.

CHAIR—I just have a couple of extra questions. You just mentioned the Project Aquarius. What were the conclusions that came out of that project?

Mr Vercoe—That project was looking at a range of things, including bringing firefighting aircraft from North America. One of the significant findings was that the situation in Australia is quite different from that of North America in terms of how quickly we could deploy large fixed wing aircraft and what the turnaround time would be for refilling and getting them back out to fight the fires. The general conclusion was that they were valuable in particular instances but as a primary firefighting method they were inadequate.

CHAIR—I will just go on to couple of other things. My colleague Jo Gash mentioned getting information down to the brigade level. To what extent has CSIRO—to this point in a lot of their work in bushfire research—actually talked with or liaised with people at that brigade level?

Mr Vercoe—We run periodic training activities with the fire brigades. That tends to be at a higher level than every individual fire brigade. I guess that is feeding into the fire brigade training systems that they have in their own in-house activities. We probably do very little direct one-on-one training with the local brigades; we have been involved at a higher level so far.

CHAIR—I raised that because we had some evidence at the inquiry in Richmond from one brigade who, clearly over a period of time, has developed what would appear—certainly to us—to be a very good planning regime of looking after their area. I am talking here not just about fighting a fire but about managing fire risk. That brigade, Kurrajong Heights, has worked out the right sort of period for their region in which hazard reduction should be done. It is not every two years like a lot of people think; in fact, it ranged from seven to 15 years. Certainly the evidence provided to us showed a well on-the-ground researched operation, I guess over many years, such that that region, while it is very fire prone—much more so than many other areas—has not had any loss of property or life for quite a period of time. I am just raising that as background to ask whether CSIRO see that there is some really excellent research already being done in a practical sense—and I am sure this is duplicated in many ways—and whether CSIRO should be tapping into that sort of knowledge.

Mr Vercoe—Most definitely; that is right. Again I would go back to this cooperative research centre. It brings together fire management agencies as well as researchers. It is very strongly user driven. There are 36 agencies involved, including all the major fire and land managers, and that will be a full and frank exchange of a lot of these activities that have not been well coordinated and communicated to date.

CHAIR—Can I come to the way in which I interpreted your comments with respect to a question about whether the impact on Canberra could have been prevented. They said that nobody will really know whether, if some hazard reduction had been done, that would still have been the case because of the extreme weather conditions. The committee has received evidence that, for quite a number of days after those fires started, the weather conditions were in fact very good for firefighting. We have also received evidence that a lot of lightning strike fires were put out within 48 hours. I am interested that you have still come to the conclusion, 'Well, it possibly would have impacted anyway,' given that sort of evidence. But, secondly, with that in mind, what work on that small moment in time is CSIRO doing that could be applied to prevent a small fire becoming a large fire? It is doing a lot of work in other areas of it, but I am asking in respect of the rapid response.

Mr Vercoe—I guess there is nothing directly related to getting to that fire at initiation. We have technology which enables us to see those fires more quickly. That would impact on how fast people can get there. A lot of our research has been based on the fact that fires are going to happen, but we need to ensure the people involved with fighting and managing those fires have as much information as possible about where the fire is going to go and how it is going to behave under a certain set of conditions. All the indicators are that, the faster you can get to the fire and put it out, the better off you are. Obviously if it rolls on for longer it is going to get bigger and bigger and more difficult.

It is linked also to this issue of indirect fire attack. If you are relying on volunteers, helicopters and people who are less well trained then you become limited in your options. You cannot tackle fires at night, when the weather conditions normally make it easier to put in control lines and things like that. Helicopters do not work very effectively at that time. It is difficult, if you do not trust the training level of the staff involved, to put them on the ground in the dark to fight fires. So there is a range of things like that.

It is difficult to look at one element. I am sorry; I am dancing around your question a bit. I am sure we are going to find out more about the particular case in the ACT through the coroner's process. That is another reason I am sidestepping particular comments on that. I am not sure what else I can add there.

Mr BARTLETT—I want to pursue a bit further that issue of the use of aircraft. You said it still has not been resolved where the most effective point is—whether that is early attack for fires or property protection and so on. Is work being done on that? I understood you to say that it is.

Mr Vercoe—Yes, it is; that is right.

Mr BARTLETT—I have a second question on that. From your experience, looking at the last two summers particularly, do you think there was reasonably effective cooperation between the states in terms of their use of aircraft or do you think there is a greater role for the Commonwealth in coordinating the use of aircraft?

Mr Vercoe—I think there is a very important for the Commonwealth in assisting with aircraft, simply because of the fact that they are extremely expensive and we are not certain where they are going to be needed to be deployed at the beginning of the fire season, so again the coordination across the state agencies and across states, for that matter, is definitely a role for the Commonwealth.

Mr BARTLETT—Are you doing to do any work or is CSIRO or the CRC going to do any work on the issue of leasing versus purchase and the economies of those two alternatives?

Mr Vercoe—There is a project on the efficiency of aerial suppression. I am not sure, off the top of my head, whether that is going to incorporate those sorts of elements, but we can certainly take that up.

Mrs GASH—One of the problems we faced in the Shoalhaven—I am not quite sure whether Canberra faced the same thing—was evacuation. People did not want to leave their homes. I

know that each place is different, but what is the CSIRO's view on whether you stay in the dwelling and fight the fire, or be evacuated?

Mr Vercoe—In all the research that we have done in post-fire surveys, we have not found—I think I am right here—a house that was lost if people were there to put out spot fire and ember damage. If they stayed with the house, and were able-bodied and able to fight the spot fires and things that were there, there has not been a house lost. The houses that get lost are generally empty.

Mrs GASH—Will you be making a recommendation on that research, whether just to Canberra or to whichever bushfire zone you might be working on?

Mr Vercoe—Not that I am specifically aware of. That information is not new; it has been available for—

Mrs GASH—It is very difficult when your local police—who are responsible; the ultimate authority—are saying, 'Either you go or we take you.' That is a difficulty.

Mr Vercoe—Yes. There is a comment made on the urban impacts here on pages 7 and 8 of our submission. It said:

Many of the community members that performed suppression activities during the hours after the main bushfire attack had:

Not received advice to evacuate,

Ignored advice to evacuate or resisted forced evacuation, or

Circumvented road blocks preventing access to the effected areas and returned to defend their properties.

That is fairly strong commitment by those people. I guess it indicates that perhaps there could be better training for emergency services people, who are controlling community activities in those situations. They are going to have to make—and, obviously, have made—a call, and that is to get everyone out; that life is more important than property.

Mrs GASH—This is where the difficulty arises: who is actually the local controller, and who should be the ultimate authority? Two different points of view always arise. I must say that, from the Shoalhaven point of view, they were very difficult circumstances. People were actually charged for not leaving their homes.

Mr Vercoe—That is a very tough call. I guess it indicates that, if the individual services involved are trained to the same level, at some point it is not going to matter who controls it, because they are going to be dealing with and using the same information. At the moment we have different groups using different information.

Ms ELLIS—In Canberra it seems—from my very scant knowledge of this, just ad hoc in the community—that we had some people who stayed and tried to fight the fire, and gave in as the roof was collapsing. We had another woman who went on radio to say that she and her husband

had tried to save the house, but ended up saving themselves and being able to stand there and watch the thing burn down. We had other people who left and came back to find their house standing. So this is a very vexed question.

As I understand it, in the Sydney metropolitan area—I believe that a couple of the community people here have made this recommendation to the McLeod inquiry—people have set up neighbourhood fire teams around the urban fringe with the bush, I think with the assistance of the shires and fire authorities. There is obvious interest in my community here in Canberra in this. Does the CSIRO have a view about how efficient those teams can be? I think you know the ones I am referring to. It is where a neighbourhood that abuts the bush decides to form a group. They are equipped in a low fashion but trained up in a high fashion, so that if there is a fire threat they can work together as a neighbourhood team with the fire authorities.

Mr Vercoe—There are two issues there. One is that the more the community knows and understands what is happening in those situations, and the more their training is linked to the training of the fire managers and controllers, the better—the more they can integrate and have a greater overall effect. I guess the risk comes through having partial training or training to a certain level, and then feeling that they can overcome any sort of fire condition. There is also the point that some of the volunteers have made: that perhaps the expectations of the community that the volunteers are going to save their property put them into situations where they perhaps should not be. So there are two things there. One is that the education of the community and the use of those community groups as interfaces between the fire controllers and managers and their own properties are really good things. The other is that understanding their limitations is also important.

Ms ELLIS—Given the massive amount of work the CSIRO is obviously undertaking in relation to coronial inquiries, this inquiry and your own research, has the number of people within the CSIRO who are dedicated to work on fire research increased or decreased recently?

Mr Vercoe—That is a good question. Across the whole organisation, I cannot tell you off the top of my head.

Ms ELLIS—Maybe you could take that on notice and let us know.

Mr Vercoe—Yes, sure.

Mr MOSSFIELD—My question goes to the same issue. I raise this matter mostly to put it on the agenda. It relates to government policy, so Tim may not be in a position to comment or may not want to. In an earlier submission to the committee, Peter Webb praised the work of CSIRO in the many facets of fire control research, including building materials, fire control methods, equipment and safety gear, effective training methods and better ways to help keep volunteers interested. He completes his statement by saying:

The National Bushfire Research Unit has played a great role in this kind of research along with very valuable fire behaviour analysis. The privatisation and potential breaking up of CSIRO is of concern for the future of this valuable work.

Comment if you would like to, but if you do not want to I understand that. That is something the committee may want to look at at a later stage.

Mr Vercoe—Are we being privatised and broken up?

Mr MOSSFIELD—You have been?

Mr Vercoe—No. I do not have any information on that.

Mr MOSSFIELD—That was of concern to that particular witness, which we can address as we go along.

CHAIR—As Chair of the House of Representatives Standing Committee on Science and Innovation, I have a particular interest in that body as well, and I am not aware that any privatisation or break-up has been mooted. I would just like to finish with a question on building regulations. We have not really concentrated very much on questions in that respect. Do you think the current building standards are pretty much up to the mark? Do some of the problems we have seen in these fires relate back to standards which are now well and truly out of date?

Mr Vercoe—Yes. My understanding, again from my colleagues in another division, is that the existing standards are up to date but there was a big lag time between those standards coming in in the last year or two and houses and things built prior to that. So presumably the ones currently being built to the standard are adequate, although again the particular set of conditions tested some of the assumptions that are incorporated in those standards. In its submission, CSIRO says:

> AS3959 is not applied retrospectively and there were no houses in the Duffy area in the ACT that had prescribed mitigation measures. ...
>
> AS3959 specifies that houses within 100 metres of forest fuels require specific measures to mitigate ember attack. Had this been implemented, it would have significantly reduced the levels of house loss in Duffy but would not have prevented loss altogether.

Again, that is the combination of factors. We have a reasonable standard at the moment. There will be a lag until everything gets up to that level. In fact, there is no retrospective application of that. But at the end of the day, when you get a particular set of circumstances like that, that is unlikely to save everything.

CHAIR—Figure 14 in your submission, which is a kind of graph plots particular fires dating back to 1967. You plot fire intensity in the vertical axis and the forest fire danger index in the horizontal axis. Presumably, because you are still conducting an assessment of the most recent fires, they are not plotted on there. But, if you take the ACT fire as an example, do you have an initial assessment of where that might fit on that graph?

Mr Vercoe—No, I do not. I can get one for you if I take it on notice.

CHAIR—The Kosciuszko and the Victorian fires would be interesting too, if there is some information already available.

Ms ELLIS—Does the building standard you just referred to apply with or without the declaration of a bushfire prone area?

Mr Vercoe—I am sorry, I do not know.

Ms ELLIS—Could we establish that at some point, either through the committee or—

CHAIR—I think your submission does refer to that.

Ms ELLIS—Perhaps we could find out at some point rather than holding up proceedings.

CHAIR—Your submission says that AS3959 is the standard building in bushfire prone areas. That is the standard that applies in those areas.

Ms ELLIS—So the analogy I am drawing is that Duffy has not been declared a bushfire prone zone. Whether or not it is, obviously, is up to future decisions; it may not be. I just wanted to get that clear.

CHAIR—If Duffy, for instance, is not designated a bushfire prone area, it probably tends to indicate that perhaps constant reviewing of planning areas needs to be done as well. Because in hindsight you would say, 'Surely, it's right across the road from a major forestry area.'

Mr Vercoe—I am not sure how that is defined.

Ms ELLIS—With the greatest respect, the problem, when you look at those maps, is that you can be six blocks in on a bad bushfire day and be burnt out. So I do not know how far bushfire zones go in urban life.

CHAIR—We have had a number of public hearings and witnesses have come forward with their submissions, but often as committees progress their inquiries they may ask witnesses to come back or they may have further hearings to pursue other information once they have heard from other people—and we still have to hear from people in Victoria, Tasmania and Western Australia as part of our hearings. Would CSIRO have available various people? You have represented the organisation here today—and very well I have to say, and I thank you for that—but clearly, as you mentioned, there are a number of sections or divisions of CSIRO that have had input into this submission. If the committee felt it needed further advice along the way, would other people within CSIRO—and clearly the most talked about names in CSIRO when it comes to bushfires are Phil Cheney and Jim Gould; they have done work in this area—be available for the committee to speak to if necessary?

Mr Vercoe—Jim certainly would be. Phil, at the moment, is committed to the ACT Coroner, and he has been asked not to comment beyond the coroner's inquiry at this stage. He has been consulted in putting this together, but he has been asked not to comment outside of the coronial inquiry.

CHAIR—By whom?

Mr Vercoe—By the ACT Coroner.

CHAIR—Do you know what authority he might have to ask that?

Mr Vercoe—No, I do not. If the committee would like to give me the areas it is particularly interested in, I can help put together a group of people from across CSIRO who can address those things.

CHAIR—I am only speculating because I know how some of these things work. As we get all the evidence from a variety of people, I would think it is not unreasonable that the committee might come back and say, 'We need to test some of this other stuff on the people who are deemed to be the experts in this area.' The fact is that we still have a lot of hearings to go before we are finished, so that may be the case. I will take that information on board and we will work from there. Thank you for your time this afternoon and, once again, thank you for your submission.

[4.20 p.m.]

WICKETT, Mr John Harold (Private capacity)

CHAIR—I mentioned earlier for the people in the gallery that we would have an opportunity for further people to make statements or give evidence to the committee. Three people have indicated that they would like to address the committee. I do not want to hold anybody back. I am quite flexible in how we might deal with this. I might ask each person to come forward and make their statement. If committee members particularly feel they want to ask a question about it I will ask the individual if they would be happy to take a question, but the purpose really is to give people an opportunity to provide additional information to the committee. I do not want people to feel that they are going to be interrogated if they do not want to be. That was not the intention; it was just to give a bit broader scope to the information that comes to us. The first person I will welcome is Mr John Wickett. Do you have any comments to make on the capacity in which you appear?

Mr Wickett—I am a retired farmer and agriculture research officer and I have spent all my life in the bush with my father, who was a forestry engineer. We started off in New Zealand and came here to Canberra in the 1940s, when he was a lecturer at the Forestry School here for six years. We went to Victoria, where he built and managed a sawmill for three years. We went to Tasmania for six years, where he ran a sawmill for Australian Newsprint Mills down in New Norfolk. Then we went to Cairns, where he redeveloped all the timber mills for Bunning Brothers in North Queensland. Then we went to Western Australia, where he was the utilisation officer for the Forests Department of WA. All those years I was learning forestry as well as farming. I can say that I have covered the whole of Australia. From Western Australia I then went and spent seven years up in the Kimberleys and wandered around there. So I got a feel of the whole of the country. As one of the speakers before—and I think it was Ian Haynes—said, Australia is slowly becoming less productive in all the techniques we are using and people are not aware of how to control it. It is a fact that that is happening.

I will just come back to my submission, which was No. 341. I think I can give some answers on some of the points that were picked up here. Professor Taylor talked about the Aboriginal burning. My knowledge comes from living with the full bloods up in the Kimberleys, plus natives in Western Australia, where they say that burning was done to create greenfeed to bring the kangaroos in so that they could get close enough to spear them to get their tucker. That has been my understanding, and all the reading that I have done—and living with them, watching them and working with them—verifies that. It was not as though they were trying to control the countryside. They were just after tucker—getting animals to come in for a green pick.

I feel that what we should be looking at with your committee—and I feel this is where you are going—is the overall view to develop management strategies to prevent the disastrous forest fires that we have had. In my submission I talked about the fires in the 1860s in Western Australia where they have now the Pemberton 100-year forest—which is a brilliant example of how a forest will redevelop. It had been clear-felled for a wheat crop, then fire went through and germinated the seeds—breaking the dormancy of the eucalypts—so that, when I first saw it in 1957, it was a brilliant forest. It had been kept in that spot by the Conservator of Forests at that

time, Mr Lane-Poole, who saw it in the 1930s and said: 'Let's keep that as a 100-year forest so we can see what will happen in 100 years.' He was in fact my father's boss while he was the lecturer at the state forestry school here in Canberra.

Guys with that sort of foresight can show us what we can do and think about. The Tasmanian forest department over the years did similar sorts of work in proving that they could develop forests in 100 years instead of 300 years by selective management. They did that by thinning out the rubbish trees and getting it under control. Western Australia have worked on those sorts of systems. Up till the 1960s they listened to a lot of the people saying, 'Don't burn off all the scrub in all the forests. Let it stay, so we have biodiversity to keep the animals and things going.' In 1960 there was a horrific fire which started from campfires on the Dwellingup River. It burnt out thousands of hectares of forest country and the township of Dwellingup; it killed a few people and completely decimated the town. From that day on, the Conservator of Forests of the Western Australian forest department at that time, Mr Harris, said: 'We will carry out hazard reduction burning.'

I suggest, as I did in my submission to you, that you have a look at what the Western Australian forest department has done since the 1960s in forest hazard reduction. At the time I was working with them, they were recognised as one of the premier forest firefighting divisions in the world. They used to train people from overseas. For example, the Californian fire people would come in and spend a fortnight with the Western Australian forest department to learn to control fire. I feel that in New South Wales leaving the forest management to National Parks created the disaster that you have had—because they have an interest in keeping biodiversity but not in total forest production. If there is going to be management, it should be to gain what you can economically out of a forest while also keeping the biodiversity. There are ways of doing both things, as the CSIRO guy said.

There is a lot of work being done and, I would suggest, a lot has been written about how to manage this—for example, about how to do blocks so that you have a mosaic of burns over a one- to five-year period. Western Australia burn 20 per cent of their forests each year, depending on the growth that is there, to reduce the hazards. They are not in conjoined blocks; they are scattered over different areas. Signs are put on the road. A fortnight before the firebombing is going to happen, a quick fire burn is put around firebreaks that are at least three to five chains wide so that there is protection. Then, when the fire burns are coming back into the centre of that block, they burn from the other side with firebombing and, hey presto, you have a whole block burnt out without any severe hazards. During this time, all the animals and birds in that block have moved out to adjoining areas where they are not scorched like we saw in the fires in Kosciuszko. There is management control there, and I think if you, the committee, look at that in your investigations in Western Australia you will get some answers on how to control the severity of the burns that we have coming through this area.

Another thing I would like to look at is the chaos of command and control. It was haphazard. If you look at my submission, you will see I have written about the chaos of a policeman trying to get everybody out of the Chapman area. A friend of mine stayed in the area and, because he did, he was able to put out spot fires and save five houses, including his own and those of all his neighbours who were down the coast.

We need to have controlled and centralised training, such as the CSIR0 are suggesting with their CRC. We need to get that information out to the schools so that high school students learn a little bit about it in their science lessons. As a science teacher and agriculturalist I wish that that would happen and that the practical things in life were being taught to kids. You could touch on it for a fortnight or three weeks and then move on. If you did that during the wintertime, the kids could filter that information back to their parents so that, by the time summer was here, they would have learnt what the kids had been learning at school. It does not have to be a very expensive thing—just a few TV ads, leaflet drops, articles in newspapers and those sorts of things. It is possible. There are brains around the place here who could get those sorts of things going without much expense. The organisations which need to look at the training are state forestry departments, rural fire brigades, urban fire brigades, police and appropriate armed service units so that all their personnel and training would be organised and coordinated at the same level.

On house fires, a friend and mentor of mine who was the co-originator of permaculture was asked by the Victorian forestry department to do an investigation into the Ash Wednesday fires. He wrote a book called *Flywire Houses*. It is only a little book but it is brilliant. He wrote about the things that I heard coming over the radio about how to prepare your house for the fire before it happened—blocking up gutters and putting water into them, blocking up underneath the house so that you cannot get red hot embers in and making sure that all burnable material around the house is removed. He wrote about that 20 years ago and yet we are still learning. Please, take note—David Holmgren, *Flywire Houses*—and use that as a reference.

Bill Mollison says the same thing in his permaculture manual. Another point that he brings up—and it is basic and fundamental forest management—is about cattle grazing, as Peter said this morning. Cattle grazing in the scrub will keep down the load. Cattle could cause problems in some areas so there has to be a balance so that you get to keep the biodiversity and the forests are there. The aim is to control the fires that cause the danger, the loss of life and property. Everything has its place and each area—whether it is rainforest, sclerophyll forest or open grasslands—needs a different system to make it all happen and to keep control.

I have seen and fought fires in Western Australia in the eucalypt and pine forests. When I first came to Canberra in 1992 I was astounded at the lack of fire control techniques. There were no firebreaks around any of the farms and Duffy was a disaster waiting to happen. Admittedly it has taken 11 years for it to happen but, having fought forest and pine plantation fires, I could see that it would happen. People need to think and anticipate because they know that in summer we are going to get hot north-west winds and that that is going to bring the fires in. It is a matter of people understanding that and learning from the past. One of the guys who was burnt out came and lived alongside us. He had been in Canberra since 1938; he saw the fires in 1939, he saw the fires in 1950 and he got burnt out in 2003, and he said, ‘Why the hell doesn’t anybody learn from history?’

We have a command and control system in Australia that works in mobile vehicles—that was the problem with the fire control vehicles—so why don’t we take a model from the armoured regiments in the Army? They have the same sorts of problems, but they are the guys who are Commonwealth controlled and can help set up an integrated system that can be coordinated across all the states.

Mr BARTLETT—You said that burning takes place in the Western Australian forests every five years and that basically 20 per cent is burned off a year.

Mr Wickett—Something like that.

Mr BARTLETT—How extensive is that? Is that the whole south-western corner?

Mr Wickett—All of the south-west forest area will usually be burned over about five years. They take one-fifth of it each year in discontinuous blocks.

Mr BARTLETT—I think you said that has been done since 1960.

Mr Wickett—That is when they first started it.

Mr BARTLETT—Has any research been done of the impact of that on biodiversity in the region?

Mr Wickett—Yes. Someone by the name of Dr John Hopkins was in charge of looking after all the research into flora, fauna and the control burn for the forest department from the 1960s.

Mr BARTLETT—Do you have a copy of his work?

Mr Wickett—I do not, but you can get it from the Western Australian forestry department quite easily.

CHAIR—We will be visiting that south-west area of Western Australia in a few weeks.

Mr MOSSFIELD—Would you expand on your opening statement about why Aboriginal people used to burn off—which was to create green feed rather than to control the burning. That goes counter to a lot of the submissions that have come through and specifically say that the reason they burned off was to control the fires. You are challenging that statement.

Mr Wickett—Yes, I am. Having lived with them, a blackfella said to me, 'How can I spear a kangaroo when I am living in Bunbury or Busselton in amongst the scrub down there? The scrub is so thick I cannot get a chance to throw my spear, so I burn it out and get a little clean patch in there with lovely, green, fresh grass. The kangaroos come in, I sneak up, I can throw my spear and I can get kangaroos for my tucker.' It is the same in the Kimberleys.

CHAIR—Thank you very much for your time and your submission.

[4.37 p.m.]

MIKHAILOVICH, Dr Katja (Private capacity)

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Dr Mikhailovich—I am a resident of the ACT, but I have a property on Blackfellows Flat, approximately three kilometres from McIntyre's Hut. I am speaking from my own experiences between 8 and 18 January and the subsequent week when fires burned in that area.

CHAIR—We have your submission, which is published and on the record.

Dr Mikhailovich—I only want to add a few comments today. They are in relation to three areas. I am speaking from my own observations and experience over that period of time. The three areas that I want to comment on are: the lack of early response to the McIntyre's Hut fire—I have a few points in relation to that—issues regarding park management and fire management, as a neighbour of the national park bordering directly on the park with the Goodradigbee River; and communication and the coordination of fire services during the period of the fire.

I will very quickly look at the early response to the fires. I do not have recommendations as such, but I wish to put forward some questions I have remaining that I hope the committee will be able to answer at the conclusion of its deliberations. To this day, I do not understand why there was no early response to those fires in the first few days, from 8 to 10 January. I was alerted to the fires by my neighbour Wayne West and I attended the property during that period of time right at the fire front. I am not a primary producer. I have a 200-acre property. My interest in a piece of property with a large amount of bush and a small amount of cleared land is natural resource conservation, so I am very interested in why there were no fire crews present for those first three days.

It appears as if the fire was left to burn as a natural form of fuel load reduction. I would like to know, given that the Rural Fire Service was aware that the fire was in that area from the day of the lightning strike and had continual updates on the progress of the fire and given that National Parks were aware that the fire was burning in the park, whether a decision was made to leave the fire until it got to a certain point. My observation of that was when it began to approach powerlines, which could have posed further threat. The other point regarding park management is that I have owned my property there for nine years and have never been contacted by the park regarding any discussion about fire management plans as a neighbouring property. My neighbours in the area, the private landowners in the area, have made preparations for fire in the summer and have had discussions.

I have contacted the park concerning the blackberries—and I raise the issue of the blackberries in the park because it was raised by forests earlier in the day as being a problem. The blackberries in the park are incredibly invasive and border all along the Goodradigbee River. They are, in my view, of considerable threat to neighbouring property owners because of their volatile nature in the event of a fire in the summer. The river is not a firebreak in any sense.

There is a canopy over the entire river, and the park side is very dense—in some areas, up to 200 metres thick—with blackberries. As a rural property owner, the council require that I manage my weeds. If I do not have the resources to do so, they do not look upon me very kindly. I have been informed by the park—and I must say the park has endeavoured to engage in blackberry control—that they do not have the resources to do the full extent of the park and that they have confined their blackberry management to areas that relate to where people camp and are used for recreational purposes.

During the period of the fires, I and Mr West in particular patrolled the riverfront and obviously the border of my property in the event that the fire would jump the river. The fire did jump the river prior to the evening of the 17th, through fires that were in the blackberries that were not back-burned during back-burning operations by Brindabella fire brigade or by National Parks fire services. It is my understanding also that on the evening of the 17th it was the blackberries that contributed to the fire jumping the river and then continuing to burn through. It is also my understanding that all the local people—and I have only been in the area for nine years, so those with much more experience than me—knew that if the fire crossed the river the fire would then move very quickly through to Brindabella and towards Canberra. It just seems ludicrous that you would allow fire to burn for at least three days without attempting, it appears, in any way to put out that fire.

I will just make one final comment about communications during the period of the fire, from the 8th to the 18th. In my experience, it was very difficult to get any information at all from fire control about the progress of the fire, as an ACT resident wanting to travel to my property and to understand the extent and the spread of the fire. My most reliable information came from my neighbours, who were resident or at the property when I was not at my property, and—when it came to the state of the access to roads—Brindabella rural fire service.

Nobody contacted me, as a property owner, about the danger to my property. Fire control was not aware that I had a house on the property, despite the fact that the fire burnt 200 metres from my house for three days. I watched it from my veranda. While choppers were water bombing, fire control was not aware that there was a house within 200 metres of the front of the fire. It appeared to me as though once the fire was contained, in the view of the National Parks and Wildlife Service, fire services were removed completely from the area. Despite the fact that the river is an artificial boundary, I felt abandoned. The fire had seemingly been brought under control in the park, and no fire services or crews were adequately deployed for property protection for private property owners.

Brindabella fire brigade were in the area and did do some back-burning, but they were deployed back to Brindabella and we were left on our own to protect our properties. The communication to property owners was minimal, if not absent—in my case, completely—and National Parks made no attempt whatsoever to communicate what sort of strategy or plans they had for containment of the fire. Forestry evacuated us without the option of staying to protect our properties. I believe that, had we been given the option to protect property and the support to protect property, perhaps my neighbour's property would not have been completely destroyed.

Ms ELLIS—Thank you very much for your submission to this inquiry. I do not know this area extremely well. You live in the ACT?

Dr Mikhailovich—Yes, that is right.

Ms ELLIS—Is the 200-acre property within the ACT or in New South Wales, or does it straddle the border?

Dr Mikhailovich—It is in New South Wales.

Ms ELLIS—I think Mr West mentioned in his submission that you were evacuated. What damage did your property incur?

Dr Mikhailovich—The fire went right through the property and damaged all the natural vegetation and destroyed fences.

Ms ELLIS—Did it wipe it right out?

Dr Mikhailovich—My house is standing, and my house is standing because it is in a very cleared area. We had been wetting it down virtually since 9 January. Every day we had been there wetting down the house just in case the fire did progress quickly—in fact it did not until the 18th—and we had been engaged in property protection for that period of time.

Ms ELLIS—So the rest of your land was cleared by the fire?

Dr Mikhailovich—Yes.

Ms ELLIS—Literally?

Dr Mikhailovich—Yes. What is very interesting, though, is that the pattern of fire is quite different. I am in a steep valley and either side of the valley has been burnt through. Where the fire came through from where it had started with the lightning strike on the 8th, it burnt very slow and cool. Then on the 18th it jumped the river and came through very, very hot. On one side of the valley, which is private property, it still looks like the soil has no life in it and there are charcoal sticks.

Ms ELLIS—Like a moonscape?

Dr Mikhailovich—A moonscape. The lower edges of the valley are regenerating, but the upper slopes are completely degraded. The other side, where the cool fire burnt through slowly for a few days and then the fire came back around and burnt the area again, is regenerating at a remarkable rate. You can stand back and see forest in the national park where the slow fire came through first, removing some of the understorey but not removing the canopy. It is a very interesting area.

Ms ELLIS—I know you were not there that day; you had been evacuated—

Dr Mikhailovich—Yes, we were. We were there until we were told to go.

Ms ELLIS—What time would you say the fire raged hot on your property on 18 January? As the crow flies, how far are you from the urban fringe of Canberra?

Dr Mikhailovich—Around 12 o'clock, I would say we were evacuated. Somewhere between 12 o'clock and one o'clock in the afternoon the fire would have come through very hot. I also had a chance to go up in the forestry chopper and fly to the fire front at about quarter past one or half-past one and it was definitely moving in the direction of Canberra.

Ms ELLIS—How far out are you?

Dr Mikhailovich—I am 86 kilometres from the centre of Canberra by the Brindabella Road. It is hard to guess but maybe you can halve that—

Ms ELLIS—And from Mr West, who has his hand up: 30 kilometres as the crow flies. Thank you, Mr West.

[4.52 p.m.]

BUGG, Mr Gavin (Private capacity)

CHAIR—Welcome, Mr Bugg. Thank you for your submission.

Mr Bugg—I would like to ask the committee to look at the alternative issue of hazards in the grasslands. I would call the grasslands the 'river corridors' to the west of Canberra. We have heard no arguments for hazard reduction in those regions and it is my personal fear that that is a repeated area of threat for the city. I would like to comment very briefly on my concept of the blackberry hazard.

I have lived and dealt with blackberries for long enough to realise that they are perhaps the fastest burning fuel that I can think of on earth other than pines. I picked blackberries several years ago at Pierce's Creek on the western side of the river. I picked blackberries the same season and the season after on the paintball site, which is on the Uriarra Road, so I am very familiar with where blackberries exist in this part of the region. They are widespread right across Australia and I would implicate them in the fires in 1967 around Hobart. I saw many paths of death and destruction in that city after the fire event where blackberries were implicated around the outskirts of the town and the city itself. I think blackberries are a major threat in what I would call a typical grasslands rural hazard where weeds are a dominant fuel.

I would like to ask the committee whether we could consider the implications of ground speed on rural lands where fires pick up speed and pick up fuel and race with a vast intensity in an inferno which is perhaps incorrectly blamed on the forests. I will refer to the maps. We have got corridors of grass which lead right into the city. Two seasons in a row I witnessed fires in those corridors and I would say that the fuel that was fuelling the furnace at the time they impinged on the city was from the local rural land rather than from the bush.

Mr BARTLETT—I want to ask what evidence you have. You say you think it is from the rural lands rather than the bush. I would be interested in the evidence you have for that.

Mr Bugg—I have been interested in bushfires over a number of years in a number of locations, just as a personal thing. I have been involved in the odd firefight here and there. But the thing that makes me think that fuel is coming from a local source is the fact that I have done a lot of work in industrial furnaces and I know that to stay alight a furnace has to have continuous fuel. You can have the hot gases and you can have the wind, but continuous fuel must be whipped up into a furnace to keep that furnace burning at the rate that it needs to be self-sustaining. I fear that it is the wind in the corridors that is bringing at least some of the intensity into the city, and a lot of the fuel that is carried into the city would in fact be very light fuel from either pine plantations or grass, which is not being considered as part of our hazard reduction program.

CHAIR—To what extent have you seen the blackberry problem grow in most recent years? Or has it been going on for some time?

Mr Bugg—I used to be a fisherman, perhaps 50 years ago, in various locations. In most of the river valleys I have ever intruded into, mostly hidden away, there are blackberries. The others would be bracken fern in some locations and broom in others. But broom tends to be in the drier pastures. I went down to the Molonglo treatment plant as late as this Wednesday. I had a look again just to prove—to myself at least—where the fuel had come from. I was standing over the fence in the Molonglo valley. I would say about 50 per cent of what is regenerating is weeds, which would have been there prior to the fire. There is almost no bush as far as you can see in that particular location and yet that was a very hot fire, because fence posts were burnt off close to the ground, up to about half a metre high. They were intensely burnt. That fire would have had to have been fuelled not by the fire front but from the local ground.

There is a post on the way out to a spectacular river bend there. It stands out that the bottom of the post is almost completely cut off and the top of the post is virtually unscarred, which makes me think that the fuel that burnt that post was in fact underneath that post. So the grassfire must have fuelled it. If I am right, the wind speed would have been something in the order of 70 miles an hour—perhaps 120 kilometres or greater. The rate of combustion which was being generated would have had a significant effect over the vast area that the grassfire was travelling. So I am claiming that the light fuels that exist on our side of the river would intensify any fire of that magnitude, just by the sheer amount of fuel being consumed at one time by the front being so wide and the rate at which it was travelling across the ground.

CHAIR—And, presumably, the dryness of the grasses came into it.

Mr Bugg—It was all dry. I went up with my partner to Booroomba Rocks—I think it was on 4 January. We came back via the valley on the far side and drove back up the Uriarra Road. I was horrified. Some of the grass that was standing along the roadsides towards the national park and the grass around that region was up to a metre high along the fence lines in all directions. When I went back down to Uriarra after the fire, you could see that most of the fence lines were burnt out, not by ember attack as such but by the grass in which they stood. Often that was weeds. In particular it was rank and it was not being consumed by the stock. Perhaps it was the real reason that all the fences burnt down. That is an annual threat, an annual occurrence, rather than a once- or twice-a-decade thing.

CHAIR—So you would support some regular low-intensity burning of those sorts of grasses to stop them from getting rank.

Mr Bugg—I would go one step further and say that any hazard reduction must be done around property first and foremost. If a fire starts in any region we do not know from which direction it is going to come, but as far as the city is concerned we have these corridors, which are the valleys from the north-west. Prevailing wind and the valleys support the fire front moving in that same path, particularly from the northern direction. That is where the fuel is going to be most dangerous. And it will not be bushland. It will be woodlands, grasslands, pines—as they were—and weeds, and in particular grass, all of which can be whipped up in a high wind very, very fast into an almost gaseous fuel.

CHAIR—Thank you very much for your submission and your additional input as well. That completes our hearing today. We will continue tomorrow here in Canberra.

Resolved (on motion by **Ms Ellis**):

That this committee authorises publication of the proof transcript of the evidence given before it at public hearing this day.

Committee adjourned at 5.00 p.m.